Universidade de Aveiro Departamento de Economia, Gestão e Engenharia Industrial
2014

Suzanne Fonseca Amaro

DETERMINANTES DAS INTENÇÕES DE COMPRA DE VIAGENS ONLINE: UMA ABORDAGEM HOLÍSTICA

DETERMINANTS OF INTENTIONS TO PURCHASE TRAVEL ONLINE: A HOLISTIC APPROACH

Universidade de Aveiro
2014
Departamento de Economia, Gestão e Engenharia Industrial

SUZANNE FONSECA AMARO

DETERMINANTES DAS INTENÇÕES DE COMPRA DE VIAGENS ONLINE: UMA ABORDAGEM HOLÍSTICA

DETERMINANTS OF ONLINE TRAVEL PURCHASE INTENTIONS: A HOLISTIC APPROACH

Tese apresentada à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Doutor em Marketing e Estratégia, realizada sob a orientação científica do Professor Doutor Paulo Duarte, Professor Auxiliar do Departamento de Gestão e Economia da Faculdade das Ciências Sociais e Humanas da Universidade da Beira Interior.

Apoio financeiro do Instituto Politécnico de Viseu no âmbito do Programa PROFAD

I dedicate this thesis to my parents for it has been their endless support, love and encouragement that have carried me to where I am today.

o júri

presidente

Prof. Doutor Manuel António Assunção
professor catedrático da Universidade de Aveiro

Prof. Doutor Paulo Miguel Rasquinho Ferreira Rita
professor catedrático do ISCTE – Instituto Universitário de Lisboa

Prof. Doutora Elisabeth Kastenholz
professora associada da Universidade de Aveiro

Prof. Doutor Arnaldo Fernandes Matos Coelho
professor auxiliar da Faculdade de Economia da Universidade de Coimbra

Prof. Doutora Ana Maria Santos Costa Soares
professora auxiliar da Escola de Economia e Gestão da Universidade do Minho

Prof. Doutor Paulo Alexandre de Oliveira Duarte
professor auxiliar da Universidade da Beira Interior (orientador)

Prof. Doutora Susana Cristina Lima da Costa e Silva
professora auxiliar da Universidade Católica Portuguesa

Prof. Doutora Maria João Aibéo Carneiro
professora auxiliar da Universidade de Aveiro

acknowledgments

I once read an article about on how no one does it alone. It was on how no one gets where they are by themselves, using a metaphor that there are no true solo acts, because there is a crowd of people cheering on, opening doors, and working behind the scenes. Now that I have completed my thesis, I realize how true this is. It is very satisfying to look back and thank all the friends and family who have “cheered on, opened doors, and worked behind the scenes” and without whom it would have been impossible to complete this difficult task.

I start by expressing my sincere gratitude to my supervisor Dr. Paulo Duarte, for his guidance, valuable suggestions and above all encouragement for making me feel that I had what it takes to complete a PhD. Not only has he worked behind the scenes and cheered for me, but he has opened my doors to research, as I evolved as a researcher due to him and I could not be more grateful.

I was also very fortunate to come across good friends and colleagues that have always sat in the front row cheering for me. I thank Joaquim for his valuable opinions, Elisabete for being such a remarkable colleague, Clarinda for supporting me on this journey since the beginning and Carla for her statistical expertise and readiness. A special appreciation to Cristina for accompanying me with inestimable encouragement and friendship.

I am thankful to the Polytechnic Institute of Viseu for providing me with a grant to pay my tuition and expenses to conferences.

My appreciation also goes out to everyone that took the time to fill out the online questionnaire. This research would not have been possible without them.

I also thank PLS experts Dr. Geoffrey Hubona and Dr. Jorg Henseler for taking the time to respond to my emails, clarifying my doubts on the use of partial least squares.

And finally, I thank my family, my biggest and most loyal fans that I admire and cherish. I am very lucky to be able to count on them always. I thank my father for always encouraging me to look for the answers and my mother for her never ending support. Thanks also to my sister for being close even though far apart and to Paula for always being there for me. A very special appreciation goes to my husband for his encouragement, patience and support. I know he is sharing the joy of finally finishing my thesis as if it was his own. To finish, more than thanking my sons, I apologize to them for the time we did not spend together while I was working on my thesis. I know that someday they will understand what having a PhD means and they will be proud of their mommy as I am of them.

palavras-chave

Comportamento do Consumidor, Compra de Viagens Online, Intenções de Compra, Modelo de Aceitação de Tecnologia, Social Media, Teoria da Ação Refletida, Teoria da Difusão de Inovações, Teoria do Comportamento Planeado

resumo

A compra de viagens online tem atraído investigadores dado o seu significativo crescimento e existe uma crescente literatura nesta área de investigação. Contudo, estudos sobre o que motiva consumidores a comprar online têm sido fragmentados. De facto, os estudos existentes em grande parte baseiam-se no Modelo de Aceitação de Tecnologia de Davis, no Teoria da Ação Refletida, na Teoria do Comportamento Planeado ou na Teoria de Difusão de Inovações de Roger. Uma extensa revisão da literatura permitiu revelar que há uma falta de estudos que integram todas as teorias para a melhor compreensão da compra de viagens online. Deste modo, baseado em literatura relevante na área de Turismo e de comportamento do consumidor, este estudo propõe e testa empiricamente um modelo integrado para explorar quais os fatores que afetam a intenção de comprar viagens online. Mais, propõe um novo constructo, designado de envolvimento com social media, definido como o nível de interesse ou ligação emocional com social media, examinando a sua relação com a intenção de compra de viagens online.

Foi utilizada uma abordagem quantitativa para testar as 18 hipóteses, recolhendo dados através de um questionário disponível online. Com uma amostra de 1532 utilizadores mundiais de Internet, o método de *Partial Least Squares* foi utilizado para verificar a validade e fiabilidade dos dados e testar as relações formuladas entre os constructos.

Os resultados indicam que as intenções de comprar viagens online são maioritariamente determinadas pela atitude em relação à compra de viagens online, que por sua vez é influenciada pelas vantagens relativas percebidas e pela confiança na compra de viagens online. Os resultados também revelam que o segundo preditor mais importante das intenções de comprar viagens online é a compatibilidade, um atributo da Teoria de Difusão de Inovações. Por outro lado, apesar de a compra de viagens online ser atualmente uma prática comum, o risco percebido continua a afetar negativamente a intenção de comprar viagens online. Um dos resultados mais surpreendentes deste estudo foi que utilizadores de Internet mais envolvidos com social media relacionados com viagens não tinham maiores intenções de comprar viagens online. As contribuições teóricas deste estudo e as implicações práticas são discutidas e linhas de investigação futura são apontadas.

keywords

Consumer Behaviour, Innovations Diffusion Theory, Intentions to Purchase, Online Travel Shopping, Social Media, Technology Acceptance Model, Theory of Reasoned Action, Theory of Planned Behaviour

abstract

Online travel shopping has attracted researchers due to its significant growth and there is a growing body of literature in this field. However, research on what drives consumers to purchase travel online has typically been fragmented. In fact, existing studies have largely concentrated on examining consumers' online travel purchases either grounded on Davis's Technology Acceptance Model, on the Theory of Reasoned Action and its extension, the Theory of Planned Behaviour or on Roger's model of perceived innovation attributes, the Innovation Diffusion Theory. A thorough literature review has revealed that there is a lack of studies that integrate all theories to better understand online travel shopping. Therefore, based on relevant literature in tourism and consumer behaviour, this study proposes and tests an integrated model to explore which factors affect intentions to purchase travel online. Furthermore, it proposes a new construct, termed social media involvement, defined as a person's level of interest or emotional attachment with social media, and examines its relationship with intentions to purchase travel online.

To test the 18 hypotheses, a quantitative approach was followed by first collecting data through an online survey. With a sample of 1,532 Worldwide Internet users, Partial Least Squares analysis was than conducted to assess the validity and reliability of the data and empirically test the hypothesized relationships between the constructs.

The results indicate that intentions to purchase travel online is mostly determined by attitude towards online shopping, which is influenced by perceived relative advantages of online travel shopping and trust in online travel shopping. In addition, the findings indicate that the second most important predictor of intentions to purchase travel online is compatibility, an attribute from the Innovation Diffusion Theory. Furthermore, even though online shopping is nowadays a common practice, perceived risk continues to negatively affect intentions to purchase travel online. The most surprising finding of this study was that Internet users more involved with social media for travel purposes did not have higher intentions to purchase travel online. The theoretical contributions of this study and the practical implications are discussed and future research directions are detailed.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CB-SEM	Covariance based Structural Equation Modelling
FIMIX-PLS	Finite mixture partial least squares
HITA	Hospitality Information Technology Association
ICT	Information and Communication Technology
IDT	Innovation Diffusion Theory
IFITT	International Federation for Information Technology and Travel & Tourism
MANOVA	Multivariate Analysis of Variance
m	Mean
PLS	Partial Least Squares
sd	Standard Deviation
SEM	Structural Equation Modelling
SITA	Society of International Aeronautical Telecommunications
SPSS	IBM Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
WTTC	World Travel and Tourism Council
UGC	User Generated Content
USD	United States Dollars

CHAPTER 1

INTRODUCTION

This chapter provides a brief background of the thesis and justifies the importance of the study, by highlighting the research gaps it will fill. Afterwards, the main research objectives are presented. Finally, an outline of the thesis structure is given.

1.1. OVERVIEW

The development of Information Communication Technologies (ICTs) and particularly the Internet has had a profound impact on the travel industry (Buhalis & Law, 2008; Kamarulzaman, 2007; Mack, Blose, & Pan, 2008; Mamaghani, 2009), one of the largest and fastest growing industries in the world (Kamarulzaman, 2007). These developments have changed travellers' behaviour (Buhalis & Law, 2008; Hung, Yang, Yang, & Chuang, 2011) that now depend on the Internet not only to search for information and plan trips, but also to purchase travel (Jeong & Choi, 2005; Lin, Jones, & Westwood, 2009).

Over a decade ago, Werthner and Klein (1999) had already stressed that tourism and ICTs fitted well together since travel products and services have the ideal characteristics to be sold online (Lewis, Semeijn, & Talalayevsky, 1998; Nielsen, 2008). Indeed, Internet and travel are both information intensive (Connolly, Olsen, & Moore, 1998; Kim, Chung, & Lee, 2011; Law, 2006), travel products and services are intangible, there is an inseparability of production and consumption and they are perishable (McCole, 2002). Predictions that the Internet would have an enormous impact on how hospitality and tourism services are distributed are certainly proving true (Buhalis, 1998; Connolly et al., 1998; Marcussen, 1999; Werthner & Klein, 1999). Different sources provide evidence that illustrate the importance of online travel shopping. For instance, in a survey led by Nielson (2008), travel was the most important online transaction category. According to Statista (http://www.statista.com), the leading statistics company on the Internet, worldwide online travel sales have grown 10% a year between 2010 and 2012. Forty per cent of Americans and 30% of Europeans book travel online and although in Asia only 20% do so, it is expected that this percentage will rise to 30% to 40% over the next few years (Leggatt, 2011). While in 1998, airline companies did not sell more than 1% of their tickets online (Marcussen, 1999), this figure rose to 26% by 2008 globally and to more than 50% in North America (SITA, 2008). In particular, low budget airlines, such as Ryanair or Easyjet, enjoy online booking ratios over 90% (Buhalis, 2004; Ryanair, 2010). The future of online travel shopping also looks promising with predictions of worldwide online travel sales representing almost half of the total amount of travel sales (eMarketer, 2012).

1.2. PURPOSE OF THE STUDY

Research addressing the tourism industry and ICTs seemingly increased in the 1990s. Until that decade, very few publications on tourism and technology had appeared (Buhalis & Law, 2008; Frew, 2000). It was in 1994 that the Web began to have a commercial impact on the tourism industry (Frew, 2000), which evidently contributed to the growing research in the field. Several researchers consider that the

research community was built with the ENTER[1] and the Hospitality Information Technology Association (HITA) conferences that both emerged in 1994 (Buhalis & Law, 2008; Frew, 2000). The first scientific journal focusing on information technology within the context of tourism, travel and hospitality, the *Journal of Information and Technology & Tourism*, appeared in 1998 (Buhalis & Law, 2008). More recently, in 2010, another journal addressing these two important and related domains, the *Journal of Hospitality and Tourism Technology,* was launched.

With the huge advances in technological applications for the tourism and travel industry, such as travel related social media, travel apps for mobile phones and tablets and augmented reality, the recent growing literature in the area is not surprising. Yet, some academics argue that tourism and technology studies are scarce in the tourism and hospitality leading journals (O'Connor & Murphy, 2004). In fact, out of 4,140 full length research papers published in six tourism related journals between 1986 and 2005 only 195 of them (5%) were ICT related (Leung & Law, 2007).

Furthermore, in a review of articles published in 57 tourism and hospitality research journals from 2005 to 2007, Law, Leung, and Buhalis (2009) noted that the number of studies related to consumers was relatively small as compared to the other two categories considered in their study, namely technological development and suppliers. Similarly, after analysing information technology in the hospitality industry research published between January 2003 to July 2004 in 12 hospitality and tourism journals, O'Connor and Murphy (2004) found that "consumer research is largely absent but desperately needed" (p.481). Therefore, the authors suggested themes for further research, such as what motivates consumers to use a certain distribution channel and also what motivates them to buy travel online. The findings of both these studies support the significance of the current study.

Moreover, given the importance of online travel shopping, it is crucial to examine which factors influence travellers to purchase online (Brown, Muchira, & Gottlieb,

[1] Conference organised by the International Federation for Information Technology and Travel & Tourism (IFITT).

2007; Kah, Vogt, & Mackay, 2008). Understanding travellers' online behaviour is the core interest of online travel providers aiming to stimulate online travel purchases. Travel has a competitive online market, where travel retailers compete among themselves as well as against traditional travel agencies. In a competitive fast expanding virtual marketplace, online consumer behaviour is a priority issue for practitioners (Constantinides, 2004). Knowing the driving forces that determine travellers' intentions to purchase travel online is paramount for the successful implementation of online marketing strategies (Lee, Qu, & Kim, 2007) and to convert potential customers to actual ones and retain them (Limayem, Khalifa, & Frini, 2000). Nevertheless, understanding travellers' behaviour online is also useful for traditional travel agencies to develop appropriate strategies.

A thorough and structured literature review was conducted to determine the current state of knowledge concerning the factors that have been identified as affecting online travel purchases and which consumer behaviour models have been used. Despite many researchers having addressed the topic for more than a decade, the review revealed that research on online travel purchasing is fragmented and, therefore, the need for a more holistic approach.

Additionally, none of the studies had addressed recent developments such as the social media phenomena. Undeniably, social media applications have become highly popular throughout the hospitality industry (Kasavana, Nusair, & Teodosic, 2010) and are changing how people search and purchase travel (PhoCusWright, 2011). Although several studies have confirmed the importance of social media in searching for travel information and the important role they have in the trip planning and purchase decision making process (Gretzel & Yoo, 2008; Gretzel, Yoo, & Purifoy, 2007; O'Connor, 2008; Xiang & Gretzel, 2010), nothing is known about the relationship between travellers' use of social media and the purchase of travel online. In order to be able to respond to social media developments, travel marketers need to recognize if this relationship exists.

This study thereby contributes to the current literature by examining determinants of intentions to purchase travel online based on a holistic approach, integrating well

know theories and testing their application in the specific context of online travel shopping. In addition, given that social media is a powerful tool for traveller information search, it examines the relationship between its use and intentions to purchase travel online.

1.3. MAIN RESEARCH OBJECTIVES

The current study focuses on consumer behaviour, specifically consumer behaviour online. It addresses three main areas: consumer behaviour models, online travel shopping and the use of social media for travel purposes, depicted in Figure 1.1.

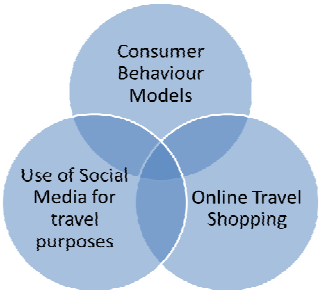


Figure 1.1 - Main areas of study

Most consumer behaviour theories have been applied to the study of online consumer behaviour (Cheung, Chan, & Limayem, 2005). In the context of online travel shopping, many studies are grounded on well-known consumer behaviour theories, the most common being the Theory of Reasoned Action (TRA) (e.g. Lee et al., 2007), the Theory of Planned Behaviour (TPB) (e.g. Bigné, Sanz, Ruiz, & Aldás, 2010), the Technology Acceptance Model (TAM) (e.g. Cho & Agrusa, 2006; Kamarulzaman, 2007; Morosan & Jeong, 2006) and, to a lesser extent, the Innovation Diffusion Theory (IDT) (e.g. Li & Buhalis, 2006).

However, a thorough literature review has revealed that there is a lack of studies that integrate all theories to better understand online travel shopping. It is interesting to note that Kim, Kim, and Leong (2005) pointed out the need to investigate more sophisticated models with more variables in order to enhance our understanding of consumer behaviour in online market.

The study also explores travellers' use of social media for travel purposes and examines its relationship with intentions to purchase travel online.

In this context, the main aim of the current study is to answer the following research question: Based on the integration of the Theory of Reasoned Action, the Theory of Planned Behaviour, the Technology Acceptance Model and the Innovations Diffusion Theory with other relevant constructs, namely perceived risk, trust in online shopping and social media involvement, **which factors most influence intentions to purchase travel online?**

In particular, this research has several specific objectives:

1) Analyse which consumer behaviour models and constructs have been used to explain the purchase of travel online;

2) Propose and test a new construct, termed social media involvement, defined as a person's level of interest with social media (based on their use and motivation regarding social media websites) and examine its relationship with the intention to purchase travel online;

3) Theoretically propose and empirically test an integrated model, to enhance our understanding of online travel shopping, focusing on the consumers' perspective. In this way, it will be possible to determine which variables affect intentions to purchase travel online and which ones are more relevant;

4) Examine if perceived relative advantages and perceived behavioural control can be operationalized as multidimensional constructs, for a more comprehensive understanding of the factors that influence the purchase of travel online;

5) Reflect on the findings of the study, discussing theoretical contributions and practical implications;

6) Present avenues for future research.

1.4. THESIS OUTLINE

According to several authors (e.g. Murray, 2011; Swetnam, 2001) a typical dissertation will have the following chapters (besides References and Appendices): Introduction, Literature Review, Research Methodology, Data Analysis and Conclusions, that can be modified according to the subject area and the style of research. This thesis follows a similar structure, composed of six chapters.

Chapter one provides a preliminary background and justifies the need of the current study. It highlights the importance of the topic given that there are several research gaps. Chapter one is concluded with the main research objectives and with the outline of the thesis.

Chapter two lays the foundation for the development of the conceptual model. It starts with an overview of the impact of Information and Communication Technologies (ICTs), in particular the Internet, on the tourism industry. Afterwards, it reviews consumer behaviour models and its applications in the context of online shopping. In particular, this chapter reviews and presents the findings of several empirical studies focusing on online travel shopping. Additionally, information is provided on the use of social media for travel purposes, supported on several empirical studies.

Building on the literature review presented in Chapter two, Chapter three develops the conceptual model and the research hypotheses. A definition of each construct is given as well as a justification for the inclusion of the construct in the model.

Chapter four describes the methodology used for conducting the thesis and presents the several phases of the research conducted. In particular, it presents the operationalization of the constructs used on the online questionnaire employed to collect the data, and details on how data were collected. It also includes a description of structural equation modelling, namely of the Partial Least Squares (PLS) approach.

In Chapter five the results of the online questionnaire are reported. First, a descriptive analysis is provided, followed by the PLS measurement evaluation and the

path analysis results, with the purpose of validating the hypotheses proposed in the conceptual model.

Finally, chapter six discusses the findings of the study, presenting its theoretical contributions and practical implications. Subsequently, a number of limitations are identified and suggestions for future research are made. Chapter six ends this thesis with some final remarks.

In addition, this thesis includes several Appendices that feature the questionnaires in English and Portuguese, as well as other auxiliary information.

CHAPTER 2

LITERATURE REVIEW

2.1. INTRODUCTION

This chapter lays the foundation for the development of the conceptual model by providing a solid theoretical background. It positions the study in the context of what has been done before and how research in the area is conducted. It is divided into two main parts: Online Travel Shopping and Social Media in Travel. The first part focuses on the development of online travel shopping and on the characteristics of those who purchase travel online. Moreover, it presents determinants of online travel shopping, several of which are based on consumer behaviour models. The second part of the chapter covers the development, impacts and use of social media for travel purposes.

2.2. ONLINE TRAVEL SHOPPING

It is hard to believe that decades ago Cox and Rich (1964) stated that "telephone shopping is in many ways the easiest and most convenient mode of shopping ever developed" (p.32). Indeed, they could not predict the convenience offered nowadays with the Internet. The Internet is an established transaction channel for a variety of goods and services (Susskind, Bonn, & Dev, 2003) and is an important retail channel for consumers (Eastlick, Lotz, & Warrington, 2006).

While initially the selling focus of online shopping was on durable items, such as books, nowadays almost any product can be bought on-line (Bourlakis, Papagiannidis, & Fox, 2008). Indeed, the Internet is an important distribution channel for travel (Lee & Morrison, 2010) and its success had already been predicted in earlier studies (e.g. Morrison, Jing, O'Leary, & Cai, 2001; Weber & Roehl, 1999).

For the purposes of this study, online travel shopping or purchasing refers to the transaction (sale or purchase) of travel conducted over the Internet, whether the payment is made online or offline. Travel includes flights, hotel rooms, car rentals, vacation packages, tours and cruises.

2.2.1. PAST, PRESENT AND FUTURE OF ONLINE TRAVEL SHOPPING

The online travel industry has undeniably come a long way. In 1999, dial-up Internet users could browse American Airlines airfares to try to find the best deals. Nowadays, anyone with Internet access can conveniently compare travel rates across multiple online travel providers on a price comparison website.

Information Communication Technologies (ICTs), defined as electronic tools that facilitate the management of organizations by enabling them to manage their information, functions and processes (Buhalis, 2003), have definitely revolutionized the tourism industry. These electronic tools have been changing the tourism industry ever since the 1980s (Buhalis & Law, 2008), playing a central role in its growth and development (Gretzel & Fesenmaier, 2009). In fact, the establishment of the Computer Reservations Systems and Global Distribution Systems (Sabre, Amadeus, Galileo, and Worldspan) in the 80s transformed the tourism industry dramatically. It should be noted that Computer Reservation Systems, developed to deal with the increasing volume of passengers, were among the first worldwide applications of information technology and, at that time, similar applications could only be found in the powerful financial sector (Werthner & Klein, 1999). During the late 1980s and early 1990s, these systems were important elements for distributing tourism products, with the advantage of providing information about customers (Gretzel & Fesenmaier, 2009). However, it was the development of the Internet in the 90s that brought the great transformation and unprecedented opportunities to the tourism

industry, changing this industry and travellers' behaviour in several ways (Buhalis, 1998; Gretzel & Fesenmaier, 2009).

One of the most significant transformations was that the Internet represented a new and potentially powerful communication and distribution channel for travel suppliers (Law, Leung, & Wong, 2004; Morrison et al., 2001), fulfilling the gap between consumers and suppliers (Buhalis, 1998). For decades, airlines, cruise lines, the lodging sector and the rental car industry had been heavily dependent on travel intermediates (e.g. travel agents) to disseminate information and sell their products and services (Zhou, 2004). With a new distribution channel, these travel suppliers found a way to bypass intermediaries and reach customers directly, while saving money (Zhou, 2004). For consumers, the emergence of the electronic market brought lower prices, discounts and time savings (Heung, 2003). In the second half of the 90s, the emergence of online travel agencies, such as Expedia (http://www.expedia.com) Travelocity (http://www.travelocity.com), Priceline (http://www.priceline.com) and Travelzoo (http://www.travelzoo.com) revolutionized the way travel was purchased.

Different sources provide evidence that illustrate the importance and growth of online travel shopping. For instance, according to the Travel Industry of America, in 1999, 15 million consumers in the United States booked their travel online, while in 2011 the number grew to 70 million (WWW Metrics, 2011). In a survey lead by Nielsen (2008), travel was the most important online transaction category, with 38% of US online buyers saying they had purchased travel online in the previous six months. More recently, PhoCusWright (http://www.phocuswright.com), one of the leading travel industry research firms, found that 40% of Americans and 30% of Europeans book travel online. Despite the twenty per cent in Asia, it is expected that this percentage will rise to about 30% or 40% over the next few years (Leggatt, 2011). The World Travel and Tourism Council (WTTC, 2011) estimates that more than 50% of leisure trips and 40% of business trips are booked online. As depicted in Figure 2.1**,** worldwide online travel sales have grown 10% each year between 2010 and 2012. Figure 2.1 also demonstrates online travel's promising future. Indeed, predictions until 2016 show that worldwide online travel sales will continue to grow.

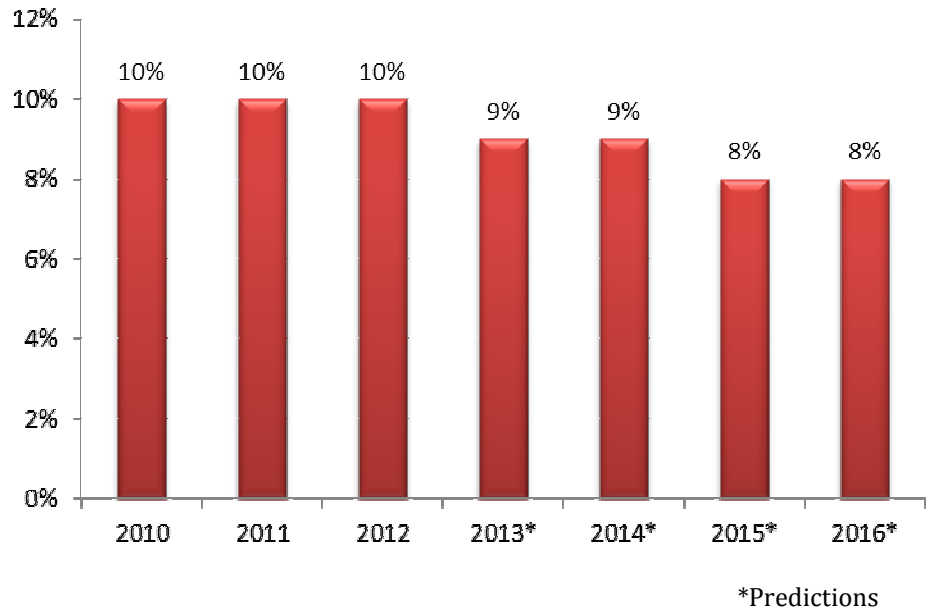


Figure 2.1 - Worldwide online travel sales growth from 2010 to 2016 (%)
Source: Adapted from eMarketer (http://www.emarketer.com)

Online travel shopping's importance can also be demonstrated by the worldwide revenue that it generates (see Figure 2.2). In 2011, the revenue generated through online travel bookings was at 340 billion United States dollars (USD).

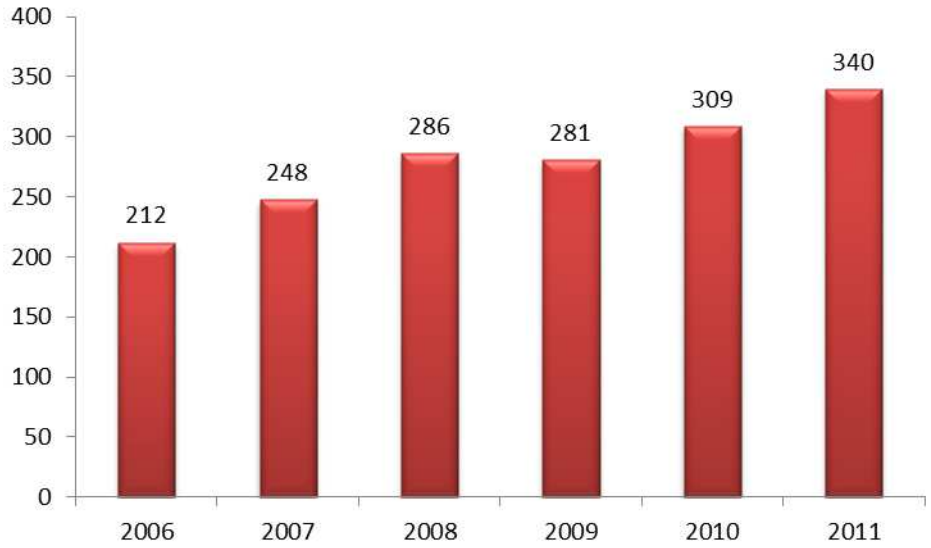


Figure 2.2 - Online travel bookings revenue Worldwide from 2006 to 2011 (in billion USD)
Source: Adapted from Statista (http://www.statista.com)

Considering the purchase of travel online by region, the United States leads in online travel penetrations, with online travel sales representing more than 50% of the total amount of travel purchases, as shown in Table 2.1. Currently, the Asia-Pacific and Latin America regions lag behind the United States and Europe, but this gap is expected to narrow by 2016.

Table 2.1- Online Travel Sales as a % of the Total Travel Sales, by region

	2010	**2011**	**2012**	**2013***	**2014***	**2015***	**2016***
United States	54.7%	52.3%	51.5%	51.1%	51.6%	52.6%	53.9%
Europe	40.4%	42.6%	45.1%	46.5%	47.8%	48.8%	50.2%
Asia-Pacific	17.2%	20.1%	23.3%	26.6%	30.1%	33.6%	36.8%
Latin America	13.8%	17.5%	22.2%	26.8%	31.3%	35.1%	39%
TOTAL	35.9%	37.1%	38.9%	40.4%	42.3%	44.2%	46.2%

*Predictions

Source: Adapted from eMarketer (http://www.emarketer.com)

According to comScore (2013), air travel accounted for 65% of online travel sales, followed by hotel reservations (19%), car rentals (9%), travel packages (5%) and other travel (2%).

In the particular case of Portugal, and following worldwide trends, travel is the most popular online transaction category. In 2011, 43.7% of Portuguese online buyers had purchased travel and accommodation (INE, 2012). This represents a remarkable growth considering that in 2005 travel only represented 16.2% of e-commerce, and was in 7th place of products sold online. Despite this increase and that 50% of the Portuguese population are Internet users (Internet World Stats, 2012) only 5% of the whole Portuguese population buy travel and accommodation online.

The growth of Internet penetration Worldwide is, in great deal, responsible for the success of online travel purchases. This is supported by the fact that online travel shopping is higher in countries with higher Internet penetration levels (WTTC, 2011). According to Internet World Stats (http://www.internetworldstats.com), Internet usage has grown 528.1% between 2000 and 2011 (see Figure 2.3).

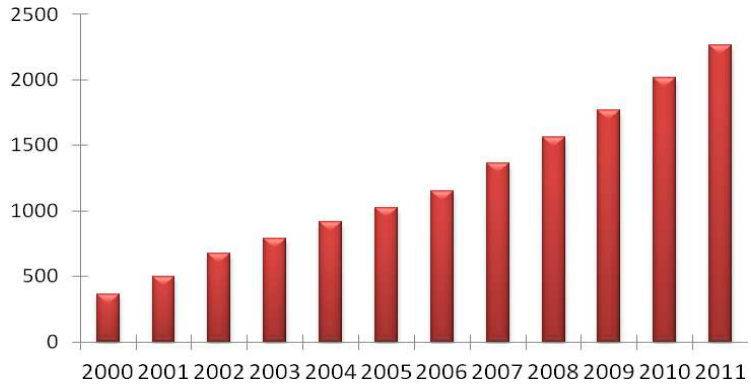


Figure 2.3 - Individuals using the Internet (in millions)
Source: Adapted from ITU World Telecommunication /ICT Indicators database (http://www.itu.int)

It is most likely that online travel purchasing will continue to increase as Internet usage increases. However, it should be noted that the success of online travel shopping is not only due to the increase of Internet usage. Tourism and ICTs fit well together (Werthner & Klein, 1999), since both Internet and travel are information intensive (Connolly et al., 1998; Kim et al., 2011; Law, 2006). Moreover, the intangible and perishable nature of travel makes it ideal to be sold online (Lewis et al., 1998; McCole, 2002; Nielsen, 2008).

The growth and development of low-cost airlines has also contributed to the increase utilization of the Internet as a means to purchase travel. While in 1998, airline companies did not sell more than 1% of their tickets online (Marcussen, 1999), this rose to 26% by 2008 globally and to more than 50% in North America (Society of International Aeronautical Telecommunications [SITA], 2008). Indeed, the most important channel available to purchase tickets for low cost airlines is online. In particular, low budget airlines, such as Ryanair or Easyjet, enjoy online booking ratios over 90% (Buhalis, 2004; Ryanair, 2010).

It is nowadays widely accepted that the Internet as a distribution channel has changed the traditional modes of selling travel (Litvin & Crotts, 2008). For example, on travel websites such as Priceline (http://www.priceline.com) and Skyauction (http://skyauction.com), travellers can opt to bid on travel. Another example that

contrasts with traditional selling modes is conducted by Priceline with "reverse auctions", where travellers name their price and invite suppliers to bid for their customer. On Hotwire (http://hotwire.com), travellers book a hotel without knowing its name until they finalize the purchase, in order to get better deals.

The emergence of electronic travel distribution obviously led to discussions on disintermediation. For example, Anckar (2003) conducted a study to examine this hypothesis and found that a significantly growing number of consumers intended to purchase their future holiday online. He also argued that the emergence of mobile commerce is likely to accelerate disintermediation. However, other researchers (e.g. Buhalis, 1998; Law et al., 2004) consider that in the future traditional travel agencies will continue to be an important travel distribution channel and that they should view the Internet as an opportunity instead of as a threat, as the Internet enables tourism businesses to improve competitiveness and performance (Law et al., 2004).

2.2.2. ONLINE TRAVEL PURCHASERS CHARACTERISTICS

A significant number of studies have addressed travellers' characteristics in the context of online travel shopping. These characteristics are important when considering issues related to online travel purchasing, since they have an impact on travellers' purchasing behaviour. It should be noted that research on online travel purchasing behaviour normally examines either the actual usage or intentions to use the Internet as a purchase mode for travel.

In order to organize the research and facilitate the analysis, consumers' characteristics were divided into four groups: demographic variables, computer and internet knowledge and usage, travel related behaviours and personal traits. The following sections explore the relationship between the variables in each group and online travel purchasing behaviour.

2.2.2.1. DEMOGRAPHIC VARIABLES

Several studies have examined online travel purchasers' demographic characteristics as they are likely to play an important role in predicting travellers' online purchasing behaviour and can be used for segmentation purposes. One of the first studies addressing these variables and online travel shopping was conducted by Weber and Roehl (1999) that provided a profile of people that search and purchase travel online.

The study reported that there were no differences between online purchasers and non-purchasers regarding gender and race. However, individuals between the ages of 25 to 55 possessing higher levels of education and income were more likely to purchase travel on-line. The majority of the succeeding studies also found that travellers with higher education levels were more likely to purchase travel online (Heung, 2003; Kamarulzaman, 2007, 2010; Kim & Kim, 2004; Law & Bai, 2008; Law et al., 2004; Lee et al., 2007; Li & Buhalis, 2006; Morrison et al., 2001; Wolfe, Hsu, & Kang, 2005), but not without some contradictory evidences (e.g. Weber & Roehl, 1999). In fact, in Morrison, Jing, O'Leary and Cai's model (2001), education was found to be the only socio-demographic variable that affected the likelihood of using the Internet to purchase travel. Yet, other studies found that there was no relationship between education and the purchase of travel online (Beldona, Racherla, & Mundhra, 2011; Garín-Muñoz & Pérez-Amaral, 2011; Li & Buhalis, 2006; Moital, Vaughan, & Edwards, 2009; Wolfe et al., 2005).

Online travel purchasers also seem to have higher levels of income (e.g. Card, Chen, & Cole, 2003; Heung, 2003; Law & Bai, 2008; Law et al., 2004) and are generally younger (e.g. Kamarulzaman, 2007; Kim & Kim, 2004; Wolfe et al., 2005) than those who purchase in traditional travel agencies. Once again there is no consensus on this subject matter. For example, Kim and Kim (2004) found that online purchasers and non-purchasers did not differ according to level of income. On the contrary, Wolfe et al. (2005) actually claimed that travellers who used a travel agent belonged to upper

income levels. In the context of China, Li and Buhalis (2006) found that there were no significant differences in income levels between lookers and bookers[2].

Regarding age, there are also contradictory results. Wolfe et al. (2005) reported that younger consumers were more likely to purchase online, while Law and Bai (2008) noted the opposite. Other researchers (Moital, Vaughan, & Edwards, 2009) concluded that age did not influence the probability of purchasing travel online.

These contradictory findings regarding demographic variables may be the result of a shift in the demographic profile of online travel purchasers. This is due to the fact that, as the Internet becomes more widespread, online travel purchase has become more common in individuals with lower incomes and lower education levels. These differences may also be due to other factors such as different sampling methods or cultural differences. In either case there is a clear need to expand research in this area to clarify these contradictory results.

2.2.2.2. COMPUTER/INTERNET KNOWLEDGE AND USAGE

Computer and Internet knowledge and usage are frequently and positively associated with online shopping predilection. Early studies have shown that consumers who purchase travel online were more likely to have more years of Internet experience (Card et al., 2003; Kah et al., 2008; Kamarulzaman, 2007, 2010; Kim & Kim, 2004; Weber & Roehl, 1999), spend more time online (Beldona et al., 2011; Kah et al., 2008; Kim & Kim, 2004; Morrison et al., 2001; Weber & Roehl, 1999) and have prior online shopping experience (Kim, Ma, & Kim, 2006; Moital, Vaughan, Edwards, & Peres, 2009).

Such findings are not surprising, since it is necessary to have computer and Internet knowledge to purchase travel online. Nevertheless, other studies have found that neither Internet experience (Jensen, 2009), frequency of Internet use (Garín-Muñoz & Pérez-Amaral, 2011), computer usage (Moital, Vaughan, & Edwards, 2009) or

[2] Lookers are those seeking information about a travel product or service on the Internet, while bookers are those who actually buy travel products and services online (Fesenmaier & Cook, 2009).

travellers' prior experience with online shopping (Jensen, 2009; Morosan & Jeong, 2008) had an effect on intentions to purchase travel online or actual usage.

It is, however, important to note that early Internet adopters and individuals that use the Internet more frequently do have higher self-perceptions of technology use (Kah et al., 2008), also known as user's self-efficacy, which in turn is positively associated with the probability of adopting online travel shopping (Li & Buhalis, 2005, 2006). Moreover, having a positive attitude towards the Internet (e.g. "the Internet is as essential in my life as any other thing") seems to be determinant to adopt online travel shopping (Ryan & Rao, 2008). In fact, individuals that are apprehensive towards the use of the Internet are less likely to purchase or search for travel online (Susskind et al., 2003), while consumers' with higher perceptions of Internet value are more likely to purchase travel online (Beldona et al., 2011).

2.2.2.3. TRAVEL RELATED BEHAVIOURS

Researchers have found that certain travel related behaviours are linked to the purchase of travel online. For instance, several studies have found that travellers that search for travel information online are more likely to purchase travel online (Jensen, 2012; Kamarulzaman, 2007, 2010; Susskind & Stefanone, 2010; Wen, 2010; Wolfe et al., 2005). Despite this being an expectable finding, Jensen (2012) found that this relationship was weak, suggesting that online travel search may not necessarily be followed by an online travel purchase. Furthermore, other studies were even more striking, suggesting that there was no relationship between searching for travel information online and the intention to purchase travel online (Li & Buhalis, 2005, 2006; Powley, Cobanoglu, & Cummings, 2004). In fact, Jun, Vogt, and MacKay (2007) reported that travellers were more likely to use the Internet for travel information search than for travel purchase.

Other travel related behaviours have been explored to determine their effect on the likelihood of purchasing online. For instance, Morrison et al. (2001) acknowledged that people who had travelled to other countries in the past 12 months were more likely to purchase travel online and several other studies have showed that individuals with higher levels of travel experience are more likely to purchase travel

online (Jensen, 2012; Jun et al., 2007; Moital, Vaughan, & Edwards, 2009; Wolfe et al., 2005). In contrast, other studies suggested that the number of trips taken did not distinguish online purchasers from non-purchasers (Li & Buhalis, 2006) and that travel frequency was not related to the likelihood of purchasing airline tickets online (Beldona et al., 2011). Interestingly, Morrison et al. (2001) and Li and Buhalis (2005, 2006) reported that having a membership in a frequent flyer program did not influence the probability of purchasing travel online. Another interesting variable that was only examined in one study was the purpose of the trip, which indicates that those whose purpose was travelling for business were more likely to purchase online, while those whose purpose was to visit relatives were less likely (Law et al., 2004).

2.2.2.4. PERSONAL TRAITS

Despite being commonly accepted that personal traits influence online purchasing behaviour, few studies have addressed personal traits as determinants of online travel shopping. Indeed, only three personal characteristics were found in the studies addressing online travel shopping: innovativeness, opinion leadership and involvement.

Innovativeness was the personal characteristic that most researchers examined. Evidence was found to support that consumers' innovativeness has a positive relationship with online travel shopping adoption (Kamarulzaman, 2007; Li & Buhalis, 2005, 2006) and moderates the effect between travellers' attitude and their intention to purchase travel online (Lee et al., 2007). Indeed, online travel purchasers are more likely to be high-tech prone (Card et al., 2003), are more receptive to new technological innovations (Kim et al., 2006) and like trying new technologies (Heung, 2003).

Opinion leadership, defined as the degree to which an individual is able to influence other individuals attitudes or behaviour (Rogers, 1995), was examined in two studies with contradictory results. Card et al. (2003) reported that online travel purchasers were higher as opinion leaders than non-purchasers, whereas Kamarulzaman's (2007) results indicated that there was not a significant relationship between opinion leadership and the adoption of online travel shopping. Kamarulzaman (2007) argues

that in spite of this insignificant relationship, marketers should not ignore the role of opinion leaders in influencing Internet users' decisions to adopt online travel shopping.

Involvement was another personal characteristic considered in Kamarulzaman's (2007) study. Although a commonly accepted definition of involvement does not exist, Rothschild's (1984) broad definition as "a state of motivation, arousal, or interest" (p.217) paved the way for the concept to be applied in multiple contexts. Kamarulzaman (2007) found that there was a positive association between consumers' involvement with online shopping and online travel purchasing. Two different studies conducted afterwards (Moital, Vaughan, & Edwards, 2009; Moital, Vaughan, Edwards, et al., 2009) reached identical conclusions. Therefore, retailers need to get consumers more involved with their websites in order to increase online travel purchasing (Kamarulzaman, 2007; Moital, Vaughan, Edwards, et al., 2009).

The effects of consumer characteristics on intentions to purchase travel online and actual purchases of travel online are summarized in Table 2.2.

Table 2.2 - The Effects of Consumer Characteristics on Intentions and Usage of Online Travel Purchasing

Consumer Characteristics	Studies with empirical evidence	Major Findings
Demographic Variables		
Education Level	Weber and Roehl (1999); Morrison et al. (2001); Kim and Kim (2004); Lee et al. (2007)	Consumers with higher education levels are more likely to purchase travel online.
	Wolfe et al. (2005)	Education levels are similar between those who purchase travel online and those who do not.
	Heung (2003); Law et al. (2004); Law and Bai (2008)	The probability of purchasing online increases with education.
	Li and Buhalis (2006)	No differences between bookers and lookers.
	Kamarulzaman (2007, 2010)	Most online travel purchasers have higher educational levels.
	Moital, Vaughan, and Edwards (2009)	Education does not influence the probability of purchasing travel online.
	Beldona et al. (2011)	Education level is not related to the purchase of airline tickets online.
	Garín-Muñoz and Pérez-Amaral (2011)	Education level is not related to the purchase of travel online.

Table 2.2- The Effects of Consumer Characteristics on Intentions and Usage of Online Travel Purchasing (Continued)

Consumer Characteristics	Studies with empirical evidence	Major Findings
Demographic Variables		
Gender	Weber and Roehl (1999); Morrison et al. (2001); Kim and Kim (2004); Wolfe et al. (2005); Li and Buhalis (2006); Moital, Vaughan, and Edwards (2009); Beldona et al. (2011)	No relationship between gender and online travel purchasing was found.
	Law and Bai (2008)	Men seem to purchase more travel online than women.
	Garín-Muñoz and Pérez-Amaral (2011)	Women have a slightly higher propensity to purchase travel online.
Income Level	Weber and Roehl (1999); Heung (2003)	Consumers with higher income levels are more likely to purchase travel online.
	Morrison et al. (2001)	There is no relationship between income level and probability of purchasing travel online.
	Card et al. (2003)	Consumers that purchase travel online have higher incomes.
	Kim and Kim (2004)	Online purchasers and non-purchasers do not differ by income.
	Law et al. (2004); Law and Bai (2008)	The probability of purchasing online increases with income.
	Li and Buhalis (2006)	No differences between bookers and lookers.
	Garín-Muñoz and Pérez-Amaral (2011)	The income level is not related to the purchase of travel online.
	Weber and Roehl (1999)	Individuals under 25 or over 55 are less likely to purchase travel online.
Age	Morrison et al. (2001)	Age does not affect the probability of being a booker, but it does affect the probability of being a repeated booker.
	Kim and Kim (2004)	Consumers over the age of 30 are more likely to purchase travel online.
	Wolfe et al. (2005)	Younger consumers are more likely to purchase online.
	Li and Buhalis (2006)	Lookers who are aged between 31 and 40 are more likely to book online, while people aged over 51 are less likely.
	Law and Bai (2008)	The probability of purchasing online increases with age.
	Moital, Vaughan, and Edwards (2009)	Age does not influence the probability of purchasing travel online.
	Garín-Muñoz and Pérez-Amaral (2011)	The 35-44 age group is more likely to use the Internet for purchasing and searching for travel.

Table 2.2- The Effects of Consumer Characteristics on Intentions and Usage of Online Travel Purchasing (Continued)

Consumer Characteristics	Studies with empirical evidence	Major Findings
Demographic Variables		
Occupation	Weber and Roehl (1999)	Those who purchase travel online are more likely to be employed in management, professional, or computer-related occupations.
	Li and Buhalis (2006)	No differences between bookers and lookers.
Marital Status	Morrison et al. (2001)	Marital status does not affect the probability of purchasing travel online.
	Kamarulzaman (2010)	Online travel shoppers are more likely to be married or living with partner.
Social/ Economic Status	Moital, Vaughan, and Edwards (2009)	Economic status does not influence the probability of purchasing travel online.
	Kamarulzaman (2010)	Middle class consumers are more likely to purchase travel online
Race	Weber and Roehl (1999)	Race did not distinguish between online purchasers and non-purchasers.
Culture	Heung (2003)	Online travel purchasers are more likely to be from Western countries, especially Americans.
	Law et al. (2008)	Americans have a higher propensity than the Chinese to purchase travel online.
Household size	Morrison et al. (2001)	Household size does not affect lookers' probability of being bookers.
	Li and Buhalis (2005)	Household size has no relationship with intentions to purchase travel online.
Computer/ Internet knowledge and usage		
Level of Computer/ Internet Usage	Weber and Roehl (1999); Kim and Kim (2004)	Respondents that have purchased travel online have higher weekly Internet usage.
	Li and Buhalis (2006)	Lookers and bookers do not differ in terms of weekly Internet usage.
	Moital, Vaughan, and Edwards (2009)	A high level of computer usage does not necessarily lead to the adoption of online purchases.
	Garín-Muñoz and Pérez-Amaral (2011)	Frequency of use of the Internet is not related to the purchase of travel online.
Internet experience	Weber and Roehl (1999); Kim and Kim (2004)	Respondents that have purchased travel online were more likely to have more years of Internet experience.
	Li and Buhalis (2005, 2006)	Lookers with more Internet experience are more likely to purchase travel online.
	Kah et al. (2008)	Internet experience and purchasing travel online are positively related.
	Kamarulzaman (2010)	Online travel purchasers are experienced Internet users.
	Jensen (2009)	Internet experience is not related with the intention to purchase travel online.
	Beldona et al. (2011)	Internet experience is positively related to adoption of the Internet to purchase airline tickets.

Table 2.2- The Effects of Consumer Characteristics on Intentions and Usage of Online Travel Purchasing (Continued)

Consumer Characteristics	Studies with empirical evidence	Major Findings
Computer/ Internet knowledge and usage		
Task oriented use of Internet	Beldona et al. (2011)	A positive relationship was found with buying airline tickets directly from the airline Websites.
Attitude towards the value of the Internet	Beldona et al. (2011)	Positively related to adoption of the Internet to purchase airline tickets.
Non-Internet In-Home shopping experience	Card et al. (2003)	Online shoppers are more likely to have used TV shopping.
General Internet Apprehensiveness	Susskind et al. (2003); Susskind and Stefanone (2010)	Negative relationship with the desire to search information or book online.
Transactional Internet Apprehensiveness	Susskind et al. (2003); Susskind and Stefanone (2010)	Negative relationship with the desire to search information or book online.
Online Information Seeking Activities (includes research for school or work, job search activities, etc)	Susskind and Stefanone (2010)	Online information seeking activities is moderately related to online purchasing.
Computer Experience	Christou et al. (2004)	Computer experience is an influencing factor for the adoption of the Internet to purchase airline tickets.
Travel Related Behaviours		
Number of International Trips	Morrison et al. (2001)	Travellers who had travelled to other countries in the past 12 months were more likely to be bookers.
	Li and Buhalis (2006)	No differences between lookers and bookers
	Garín-Muñoz and Pérez-Amaral (2011)	The higher the proportion of travel abroad, the more the Internet is used for purchasing purposes.
Number of Domestic Trips	Morrison et al. (2001)	The number of domestic trips does not affect the probability of becoming a booker.
	Li and Buhalis (2006)	No differences between lookers and bookers.
Number of trips (Travel Experience)	Wolfe et al. (2005)	The number of trips influences the probability of purchasing travel online.
	Jun et al. (2007)	Individuals with higher levels of travel experience are more likely to purchase travel online.
	Jensen (2012)	The number of trips positively affects online search and online purchases.
	Garín-Muñoz and Pérez-Amaral (2011)	Does not affect online travel purchasing.
Travelling frequency	Beldona et al. (2011)	It is not related with the purchase of airline tickets online.
Membership in a frequent flyer program (FFP)	Morrison et al. (2001)	Being a member of a FFP does not influence the probability of lookers becoming bookers.
	Li and Buhalis (2005, 2006)	No differences between lookers and bookers.

Table 2.2 - The Effects of Consumer Characteristics on Intentions and Usage of Online Travel Purchasing (Continued)

Consumer Characteristics	Studies with empirical evidence	Major Findings
Travel Related Behaviours		
Internet as travel information source	Wolfe et al. (2005)	Those who purchase online are more likely to have searched for travel information on the Internet.
	Powley et al. (2004)	No relationship with the likelihood of purchasing online.
	Li and Buhalis (2005, 2006)	The frequency of using the internet for travel information does not affect the probability of purchasing travel online.
	Jun et al. (2007)	Travellers were more likely to use the Internet for their travel information search than for their travel purchases.
	Kamarulzaman (2007, 2010)	The majority of online travel purchasers search for travel information more frequently than others.
	Wen (2010)	Intentions to use the Internet for information search are positively related with purchase intentions.
	Jensen (2012)	Online travel information search and online travel purchasing have a positive relationship.
Seek for travel information	Card et al. (2003)	Online travel purchasers are more involved in information seeking than non-purchasers.
Offline travel information source	Powley et al. (2004)	No relationship with the likelihood of purchasing online.
Trip Purpose	Law et al. (2004)	Those whose trip purpose is business are more likely to purchase online. Those who are visiting relatives are less likely to purchase travel online.
Visiting online travel communities	Lin et al. (2009)	Visiting online travel communities reduces perceived risk and increases the likelihood of purchasing online.
Personal Traits		
Innovativeness	Card et al. (2003); Li and Buhalis (2006)	Online Shoppers are more innovative.
	Li and Buhalis (2005)	Innovativeness is positively associated with the likelihood of lookers purchasing travel online.
	Lee et al. (2007)	Attitude and personal innovativeness interact to predict intention to purchase.
	Kamarulzaman (2007)	Innovativeness is positively associated with adoption of online travel shopping
Opinion Leadership	Card et al. (2003)	Online Shoppers tend to be opinion leaders.
	Kamarulzaman (2007)	Opinion Leadership has no relationship with adoption of online travel shopping.
Involvement	Kamarulzaman (2007)	Involvement is positively associated with adoption of online travel shopping.
	Moital,Vaughan, Edwards and Peres (2009); Moital, Vaughan and Edwards (2009)	Involvement with purchasing leisure online is positively associated with intentions to purchase leisure online.

2.2.3. DETERMINANTS OF ONLINE TRAVEL SHOPPING

2.2.3.1. THEORIES ON CONSUMERS' ATTITUDES, BEHAVIOUR AND ADOPTION

Understanding online travel shopping necessarily implies a review not only of online travel shopping studies, but also an examination of existing research on information systems acceptance in general, and specifically in the field of online shopping. In fact, it is crucial to understand the acceptance of information systems, because as Agarwal and Prasad (1998) stress, systems that are not accepted by their intended users will not result in the benefits that were expected.

Research on user acceptance of new technology has resulted on several theoretical models, with roots in information systems, psychology, and sociology (Venkatesh, Morris, Davis, & Davis, 2003). Indeed, information technology acceptance research has yielded many competing models, each with different sets of acceptance determinants. The most widely used models in this context have been the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), the Theory of Planned Behaviour (TPB) (Ajzen, 1991), the Technology Acceptance Model (TAM) (Davis, 1985; Davis, 1989) and the Innovations Diffusion Theory (IDT) (Rogers, 1995) (e.g. Davis, Bagozzi, & Warshaw, 1989; Hsu & Chiu, 2004a). These models have also been largely employed to explain why users adopt online shopping (e.g. Morosan & Jeong, 2008; Ryan & Rao, 2008; Shim, Eastlick, Lotz, & Warrington, 2001).

The following sections briefly present these theories and provide applications in the information technology acceptance field. Subsequently, studies concerning online travel shopping that have applied these theories are analysed.

2.2.3.1.1. THEORY OF REASONED ACTION

Fishbein and Ajzen (1975) developed a framework, known as the Theory of Reasoned Action (TRA), to understand and predict consumers' behaviour. What is notable in this theory is that it permits highly accurate prediction in a wide variety of behavioural domains (Ajzen, 1985). The TRA posits that behavioural intentions, rather than attitudes, are the main predictors of actual behaviour (Fishbein & Ajzen, 1975). It is assumed that intentions capture the motivational factors that influence

behaviour and the stronger the intention to engage in behaviour, the more likely should be its performance (Ajzen, 1991). On the other hand, a person's behavioural intention is a function of *attitude towards the behaviour*, defined as the individual's positive or negative evaluation of performing the behaviour, and of *subjective norm*, described as the person's perceptions of the social pressures to perform the behaviour (Ajzen, 1985; Fishbein & Ajzen, 1975) as depicted in Figure 2.4. In sum, people intend to perform a given behaviour if they evaluate it positively and if they believe that other people think they should perform it (Ajzen & Fishbein, 1980).

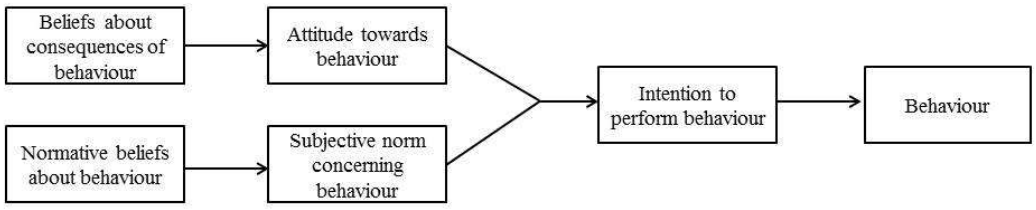


Figure 2.4 - Fishbein and Ajzen's Theory of Reasoned Action
Source: Fishbein and Ajzen (1975)

In Fishbein and Ajzen's (1975) seminal work, the researchers discuss the confusion and ambiguity surrounding the attitude concept, namely because of the wide range of existing definitions and measures. However, there seems to be a widespread agreement that affect, defined as a person's feelings towards an object, person, issue or event, is the most essential part of the attitude concept (Fishbein & Ajzen, 1975). According to Fishbein and Ajzen (1975, p. 15), attitude is a "learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a given object".

A significant number of studies have consistently supported attitude towards online shopping as a significant predictor of intentions to purchase online (e.g. Bhattacherjee, 2000; Chen, Gillenson, & Sherrell, 2002; George, 2004; Hernandez, Jimenez, & Martín, 2009; Limayem et al., 2000; Pavlou & Fygenson, 2006; Shim et al., 2001; Wang, Chen, Chang, & Yang, 2007; Yu & Wu, 2007). Further, in the majority of the studies, attitude is the strongest predictor of intentions to purchase online (e.g.

Bhattacherjee, 2000; Chen et al., 2002; George, 2004; Limayem et al., 2000; Pavlou & Fygenson, 2006).

Subjective norms are also determined by beliefs, termed normative beliefs, that can be described as the person's beliefs that specific individuals or groups think he should or should not perform the behaviour (Ajzen, 1985). As a general rule, if individuals believe that their referents think they should perform the behaviour, than they will perceive social pressure to do so. On the contrary, if they believe that their referents think they should not perform the behaviour then individuals will perceive pressure to avoid that behaviour (Ajzen, 1985). In Sheppard et al.'s (1988) and Armitage and Conner's (2001) meta-analyses of the TRA and the TPB, subjective norm was found to be the weakest predictor of intentions.

In the context of information systems, subjective norm has also not performed well in explaining behavioural intentions (e.g. Davis et al., 1989; Hsu & Chiu, 2004b; Shih & Fang, 2004). Venkatesh and Davis (2000) argue that subjective norm only has an effect on intentions in mandatory usage contexts, and not when the usage is voluntary.

Several authors have also evidenced that subjective norm was neither significant in predicting intentions to purchase online (Lin, 2007; Pavlou & Fygenson, 2006; Wang et al., 2007) nor actual online purchases (George, 2004). On the contrary, two studies (Limayem et al., 2000; Yu & Wu, 2007) did find that subjective norms had an impact on intentions to purchase online. However, in both these studies, subjective norm was measured differently from the others. While most studies only consider the influence of family and friends, these studies also included the influence of media, such as commercials, which can easily be an explanation for the contradictory results.

Applications of the Theory of Reasoned Action to Online Travel Shopping

In the context of online travel shopping, studies have consistently found that attitude towards online shopping is a determinant of intention to purchase travel online (Bigné et al., 2010; Lee et al., 2007; Morosan & Jeong, 2006; Morosan & Jeong, 2008).

Regarding subjective norm, research to date has produced conflicting results. Bigné et al. (2010) and Lee et al. (2007) found that referents' opinions (subjective norm) had an impact on travellers' intention to purchase online. Yet, San Martín and Herrero (2012), whose study contained similar hypotheses, evidenced that the social influence regarding the use of rural accommodation websites did not affect online purchase intentions. These contradictory findings may be the result of different sampling methods, applied in different countries and to different travel related products.

A summary of the effects of attitude and subjective norm on intentions to purchase travel online is shown in Table 2.3.

Table 2.3 - Effects of Attitude and Subjective Norm on Intentions to Purchase Travel Online

Constructs	References	Major Findings
Attitude towards online shopping	Lee et al. (2007); Morosan and Jeong (2006, 2008); Bigné et al. (2010)	Having a favourable attitude towards online shopping positively affects intention to purchase travel online.
Subjective norm	Lee et al. (2007); Bigné et al. (2010)	Subjective norm is positively associated with intentions to purchase travel online.
	San Martín and Herrero, 2012	Subjective norm does not affect intentions to purchase travel online.

Morrison et al. (2001) also studied the influence of friends and others on the intention to purchase travel online, but from a different perspective. They were not concerned with the perceived pressure from family and friends to purchase online, but rather with the hypothesis that knowing that family and friends purchase travel online could influence individuals to do the same. They labelled this factor *communicability* and concluded that travellers are more likely to purchase travel online if they know that others are doing likewise. In contrast, Li and Buhalis (2006) asserted that communicability was not important in explaining the adoption of online travel shopping.

2.2.3.1.2. THEORY OF PLANNED BEHAVIOUR

The Theory of Planned Behaviour (TPB) is an extension of the TRA made to overcome the original model's limitations in dealing with behaviours over which people have incomplete volitional control (Ajzen, 1991). Indeed the TRA can predict behaviours from intentions with a high degree of accuracy, provided that the behaviours are under volitional control (Ajzen & Fishbein, 1980), otherwise behaviours may not be performed. A person may intend to perform a behaviour, yet may not be able to carry out the intention due to internal factors, such as individual differences, the lack of ability or skills, power of will or emotions or due to external factors, namely time, opportunity and dependence on others (Ajzen & Fishbein, 1980). For instance, considering online shopping, an individual may intend to purchase online, but because he does not have the skills to do so the behaviour will not be performed. Other factors could interfere in the relationship between intention and behaviour, such as not having a credit card or Internet access. Since not all behaviours are volitional, perceived behavioural control was added to the model (as shown in Figure 2.5) to recognise that human behaviour is guided not only by behavioural beliefs and normative beliefs, but also by control beliefs, i.e., the presence of factors that may further or hinder performance of the behaviour (Ajzen, 2002b). Perceived behavioural control is a function of these beliefs (Ajzen, 2002b). According to the TPB, perceived behavioural control is held to contribute not only to intentions, but also directly to actual behaviour (Ajzen, 1991).

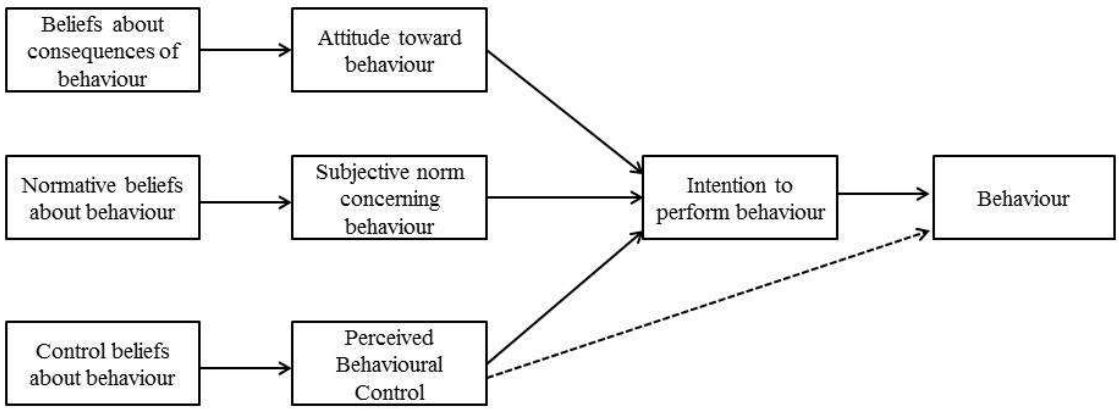


Figure 2.5 - Ajzen's Theory of Planned Behaviour
Source: Ajzen (1991)

Research has found that the prediction of behaviour is improved by adding perceived behavioural control to the TRA (Ajzen, 1991). In fact, different studies have indicated that the addition of perceived behavioural control resulted in increments in the amount of explained variance in intentions, thereby supporting the theory (e.g. Armitage & Conner, 2001; Beale & Manstead, 1991). The TPB has become one of the most frequently cited and influential models for the prediction of human social behaviour (Ajzen, 2011b), with a significant number of successful applications (Sparks, 1997), including online shopping behaviour (e.g. George, 2004; Hsu, Yen, Chiu, & Chang, 2006; Limayem et al., 2000).

Several studies have shown that the addition of perceived behavioural control to the TRA has enhanced the prediction of behaviour. However, perceived behavioural control is not well understood (Pavlou & Fygenson, 2006; Trafimow, Sheeran, Conner, & Finlay, 2002) and the concept is often misinterpreted. Indeed, Ajzen (1985) suggests that control factors may either be internal to the person (e.g. skills and abilities) or external to the person (e.g. time and dependence of others), but defines perceived behavioural control as "people's perception of the ease or difficulty of performing the behaviour of interest" (Ajzen, 1991, p. 183), clearly focusing on the internal factors. Adding to the confusion, he argues that perceived behavioural control is a concept compatible with Bandura's concept of self-efficacy[3] (Ajzen, 1991, 2002b). These assertions have led researchers to employ self-efficacy instead of perceived behavioural control when conducting research grounded on the TPB (e.g. Krueger, Reilly, & Carsrud, 2000; Vijayasarathy, 2004).

Although self-efficacy and perceived behavioural control are related concepts, they cannot be used interchangeably and should be distinguished (Terry, 1993). Self-efficacy is related with cognitive perceptions of control based on internal factors, while perceived behavioural control reflects both internal and external factors (Armitage & Conner, 2001). The perceived behavioural control concept from the TPB

[3] Bandura (1986) defines perceived self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses" (p.391).

attracted other criticisms. For example, Beale and Manstead (1991) found weak internal reliability of items designed to measure the construct.

The discussion and criticism involving perceived behavioural control led several authors to decompose the construct. Numerous studies have provided consistent support that two separate dimensions underlie perceived behavioural control. In the information systems literature, Taylor and Todd (1995) based on Ajzen's discussion of the construct, decomposed perceived behavioural control into self-efficacy and facilitating conditions. In their study, self-efficacy was related to perceived ability, while facilitating conditions were considered external resource constraints. The concept of facilitating conditions was first proposed by Triandis (1980) that posits that facilitating conditions are objective factors in the environment that make an act easy to do. Taylor and Todd furthered the concept by dividing facilitating conditions into two types: resources (e.g. time, money) and technology compatibility, although in their empirical work, only the former was found to be a significant determinant of perceived behavioural control. Several researchers have employed Taylor and Todd's decomposition of perceived behavioural control in other contexts, such as Internet banking (e.g. Shih & Fang, 2004), online shopping (e.g. Limayem et al., 2000) and electronic brokerages (Bhattacherjee, 2000). Interestingly, these studies have found that facilitating conditions either did not influence perceived behavioural control (e.g. Shih & Fang, 2004) or when they did, the effect was weak (e.g. Bhattacherjee, 2000).

From a different point of view, perceived behavioural control was decomposed in perceived difficulty (or self-efficacy) and perceived control. Perceived control refers to the extent to which people consider the performance of a behaviour to be under their voluntary control (Trafimow et al., 2002). For instance, Sparks, Guthrie, and Shepherd (1997) found that, among the multiple items used to measure perceived behavioural control, there were items clearly related to what they termed as perceived difficulty and items related to a measure they termed as perceived control. Moreover, their findings revealed that perceived difficulty contributed to behavioural intentions, while perceived control did not. Similar findings were reported in the studies of Trafimow et al. (2002) and Armitage and Conner (1999), as both supported a clear distinction between perceived control and perceived difficulty. Additionally,

both studies also concluded that perceived difficulty predicted behavioural intentions and actual behaviour better than perceived control. What is noticeable in the decomposition of the perceived behavioural control is that the majority of studies found that the self-efficacy dimension is more relevant than facilitating conditions and controllability in predicting behaviour.

More than 10 years after perceived behavioural control was added to the TRA Ajzen (2002b), aware of the problems with the nature and measurement of this construct, explicitly recommended the decomposition of perceived behavioural control in two components: self-efficacy and controllability. While self-efficacy refers to ease or difficulty of performing a behaviour or confidence in one's ability to perform it, controllability refers to control over the behaviour, or the beliefs about the extent to which performing the behaviour is up to the actor (Ajzen, 2002b). Ajzen (2002b) revises his definition of perceived behavioural control as "people's expectations regarding the degree to which they have requisite resources and believe they can overcome whatever obstacles they may encounter" (p.676). Following Ajzen's recommendations, several authors have provided evidence to support that self-efficacy and perceived controllability are indeed distinct concepts (e.g. Hsu & Chiu, 2004a, 2004b; Pavlou & Fygenson, 2006).

Regardless of how perceived behavioural control has been operationalized, in the context of online shopping, several studies have consistently found that perceived behavioural control affects intentions to purchase online (e.g. Pavlou & Chai, 2002; Pavlou & Fygenson, 2006; Wang et al., 2007).

Applications of the Theory of Planned Behaviour to Online Travel Shopping

Contrary to the studies addressing overall online shopping, in the particular case of travel, Bigné et al. (2010) found that perceived behavioural control did not influence intentions to purchase airline tickets online. However, it did influence attitude, which in turn influenced intentions. In a different study, that considered facilitating conditions instead of perceived behavioural control, San Martín and Herrero (2012) found that they failed to predict intentions to book a room online.

Studies that have used self-efficacy instead of perceived behavioural control have found a positive association with consumer's intention to purchase online (Vijayasarathy, 2004). One example in the travel context is Li and Buhalis's study (2005, 2006), that used the self-efficacy dimension and found that Chinese online travel purchasers had a higher degree of self-efficacy than lookers, indicating a positive relationship between self-efficacy and online travel purchases.

A summary of the studies that have used the concept of perceived behavioural control, facilitating conditions and self-efficacy to examine online travel shopping is presented in Table 2.4.

Table 2.4 - Studies addressing the use of the TPB in the context of online travel purchasing

Construct	References	Major Findings
Self-efficacy	Li and Buhalis (2005, 2006)	Self-efficacy is positively associated with the likelihood of lookers purchasing travel online.
Perceived Behavioural Control	Bigné et al. (2010)	Perceived behavioural control does not affect intentions to purchase travel online, but it does affect attitude towards online travel shopping.
Facilitating conditions	San Martín and Herrero (2012)	The facilitating conditions perceived in the use of websites do not affect online purchase intentions.

Perceived behavioural control has clearly been underlooked at in the travel context, which makes its role unclear. It should be noted that no study focusing on online travel purchasing intentions has conceptualized perceived behavioural control as suggested by Ajzen (2002b), that is, decomposing it in two components: self-efficacy and controllability.

2.2.3.1.3. TECHNOLOGY ACCEPTANCE MODEL

The TAM was developed by Davis (1985), to explain how users come to accept and use a technology in the workplace. Davis' model has its roots in the TRA and suggests that attitude towards using an information system is determined by two main beliefs: perceived usefulness and perceived ease of use (see Figure 2.6). Davis (1985) defines perceived usefulness as "the degree to which an individual believes that using a particular system would enhance his or her job performance" and perceived ease of use as "the degree to which an individual believes that using a particular system would be free of physical and mental effort" (p.26). These beliefs are a function of the

systems' design features. Perceived ease of use also has an effect on perceived usefulness, since the result of a system easier to use will be greater usefulness (Davis, 1985).

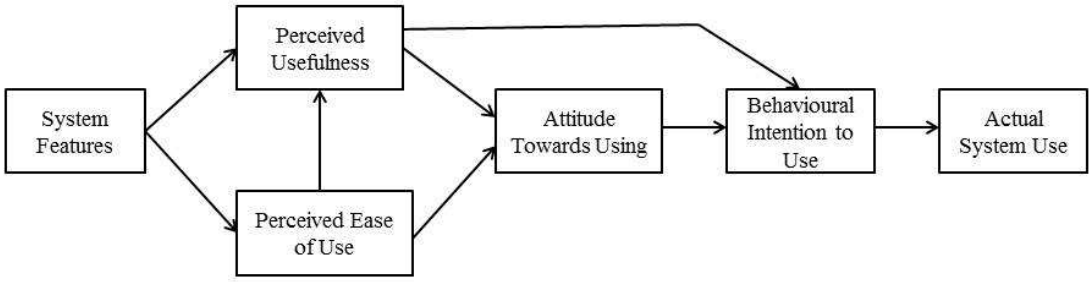


Figure 2.6 - Davis's Technology Acceptance Model
Source: Davis (1985)

Based on the TRA, Davis (1985) also provides evidence that attitude towards using the system influences intention to use the system, which in turn influences actual system use. Although not hypothesized, Davis (1985) found that perceived usefulness positively affected behavioural intention to use.

The concept of perceived enjoyment was later added to the model, defined as "the extent to which the activity of using the computer is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated" (Davis, Bagozzi, & Warshaw, 1992, p. 1113) and was found to influence user intention.

Although this model was originally tailored to predict information and technology acceptance on the job, it has been used to explain technology acceptance in a variety of contexts (Vijayasarathy, 2004), such as user acceptance of the Internet (e.g. Lederer, Maupin, Sena, & Zhuang, 1998), of online banking (e.g. Pikkarainen, Pikkarainen, Karjaluoto, & Pahnila, 2004), of wireless Internet via mobile devices (e.g. Lu, Yu, Liu, & Yao, 2003), of anti-spyware software (e.g. Lee & Kozar, 2008) and the use of e-government services (e.g. Lean, Zailani, Ramayah, & Fernando, 2009). In fact, TAM is the most widely used theoretical framework on acceptance and usage of information technology (Devaraj, Fan, & Kohli, 2002; Karahanna, Ahuja, Srite, & Galvin, 2002), most probably due to its parsimony and robustness and for explaining

considerable variance by only using two antecedents portrayed in the TAM model (Plouffe, Hulland, & Vandenbosch, 2001).

In particular, TAM has been largely used to examine consumers' acceptance to shopping online (e.g. Dennis, Merrilees, Jayawardhena, & Wright, 2009; Hernandez et al., 2009; Moon & Kim, 2001; Morosan & Jeong, 2008; Vijayasarathy, 2004). In this context, perceived usefulness is "the extent to which a consumer believes that on-line shopping will provide access to useful information, facilitate comparison shopping, and enable quicker shopping" and perceived ease of use is "the extent to which a consumer believes that on-line shopping is free of effort" (Vijayasarathy, 2004, p. 750). Several studies have consistently evidenced that these two constructs affect attitude towards online shopping and that the effect of perceived usefulness on attitude is stronger than ease of use (e.g. Bhattacherjee, 2000; Chen et al., 2002; Hernandez et al., 2009; Morosan & Jeong, 2008; Vijayasarathy, 2004). The type of user also seems to be an important factor as Hernandez et al. (2009) found that, for experienced users, ease of use had no influence on attitude towards online shopping.

Despite being a widely used theoretical framework, the TAM has received criticisms for ignoring other influences on online consumer behaviour (Dennis et al., 2009). Loiacono, Watson and Goodhue (2007) share a similar view and argue that the focus should not be narrowed to ease of use and usefulness, as evidence suggests that Internet use is driven by other factors that may not be captured by Davis's two general beliefs. Consequently, the TAM applied to online shopping has been extended by the addition of other constructs, such as fashion involvement (Shang, Chen, & Shen, 2005), shopping enjoyment (Koufaris, 2003), perceived playfulness (Moon & Kim, 2001) and self-efficacy (Hernandez et al., 2009). Vijayasarathy (2004) argues that other factors, such as compatibility, privacy and security, should also be considered in predicting an individual's intention to purchase online.

Applications of the Technology Acceptance Model to Online Travel Shopping

Since purchasing travel online also requires the willingness to accept new technologies, the TAM helps to explain the intention of purchasing travel online. Cho and Agrusa (2006) found that perceived ease of use and usefulness affected consumer's attitude towards online travel agencies, which in turn affected consumers' satisfaction or intention to use.

Adding perceived playfulness to the original TAM, Morosan and Jeong (2006; 2008) examined the adoption of hotel reservation web sites, and found that perceived usefulness, ease of use and playfulness had an impact on attitudes towards using hotel reservation Web sites. Moreover, attitudes and perceived playfulness had an impact on users' intentions to use these Web sites for reservations.

Kamarulzaman (2007) added perceived risk, trust and e-consumers personal characteristics to the original TAM to investigate which factors influenced United Kingdom consumers in the adoption of online travel shopping. She found that perceived usefulness was positively correlated to the adoption of online travel shopping, but contrary to what was expected, perceived ease of use did not directly affect the adoption of online travel shopping. This suggests that user-friendly and easy to use websites are not decisive in the decision to purchase travel online. Nevertheless, researchers have found that perceived ease of use does have an indirect effect on the decision to purchase travel online, since it affects perceived usefulness, which in turn affects the adoption of online travel shopping (Bigné et al., 2010; Kamarulzaman, 2007).

More recently, San Martín and Herrero (2012) used the Unified Theory of Acceptance and Use of Technology as a reference framework to explore variables influencing the intention to purchase rural tourism accommodation online and found that performance expectancy and effort expectancy (concepts similar to perceived usefulness and perceived ease of use, respectively) have a positive influence on online purchase intention.

A summary of the major findings of studies addressing online travel shopping grounded on the TAM is shown in Table 2.5.

Table 2.5 - Effects of Perceived Ease of Use and Perceived Usefulness on usage and intentions to purchase travel online

Construct	References	Major Findings
Perceived Ease of Use	Morrison et al. (2001)	Perceived Ease of Use has no relationship with the probability to book online.
	Morosan and Jeong (2006, 2008)	Perceived Ease of Use has a positive impact on attitude towards hotel reservation sites, on perceived playfulness and on perceived usefulness.
	Kamarulzaman (2007)	Perceived Ease of Use does not have a direct influence on the adoption of online purchases, but has an impact on trust and perceived usefulness.
	Bigné et al. (2010)	Perceived Ease of Use does not have an impact on attitude, but negatively affects risk and positively affects trust.
	San Martín and Herrero (2012)	Effort Expectancy positively affects online purchase intention.
Perceive Usefulness	Morosan and Jeong (2006, 2008)	Perceived Usefulness has a positive impact on attitudes towards hotel reservation sites.
	Kamarulzaman (2007)	Perceived Usefulness is positively associated with online travel purchases.
	Bigné et al. (2010)	Perceived Usefulness has a positive impact on attitude, but not on intentions to purchase.
	San Martín and Herrero (2012)	Performance Expectancy positively affects online purchase intention.

2.2.3.1.4. INNOVATION DIFFUSION THEORY

The Innovations Diffusion Theory (IDT), originally developed by Everett Rogers in 1962, is one of the most frequently used theories to explain technological innovation (Hung et al., 2011). Diffusion is the process in which an innovation is communicated over time among the members of a social system (Rogers, 1995). According to Rogers (1995), it does not matter "whether or not an idea is objectively new as measured by the lapse of time since its first use or discovery. The perceive newness of the idea for the individual determines his or her reaction to it. If an idea seems new to the individual, it is an innovation" (p.12).

Rogers addresses several important innovation diffusion issues, but the main contribution of the IDT is that it posits that individuals perceive innovations according to characteristics which influence their innovation adoption rate (Rogers,

1995). Put differently, individuals' behaviour is predicted by how they perceive characteristics of using an innovation (Moore & Benbasat, 1991). According to Rogers (1995), the five innovation characteristics that will determine if adoption or diffusion will occur are the following:

1) *Relative advantage*

   Relative advantage is defined by Rogers (1995) as "the degree to which an innovation is perceived as better than the idea it supersedes" (p.15). He posits that the higher individuals perceive the relative advantage of an innovation, the faster the adoption rate will be.

   Comparing this innovation characteristic to the perceived usefulness construct from the TAM, it is noticeable that they are similar concepts (Moore & Benbasat, 1991; Taylor & Todd, 1995). In fact, many researchers consider that they are equivalent (e.g. Lee & Kozar, 2008; Phang, Li, Sutanto, & Kankanhalli, 2005; Premkumar, 2003; Riemenschneider, Hardgrave, & Davis, 2002; Wu & Wang, 2005) and use the perceived usefulness items to measure relative advantages (Moore & Benbasat, 1991). On the contrary, other researchers consider perceived usefulness and relative advantages as different constructs (e.g. Carter & Belanger, 2004; Lean et al., 2009). Indeed there exists an important distinction between the two concepts since relative advantages explicitly contains a comparison between the innovation and its precursor, while perceived usefulness does not (Karahanna et al., 2002; Shin, 2010). Since the current study is interested in understanding users' perceptions of the advantages of online travel shopping over traditional channels, relative advantage is considered to be more adequate than perceived usefulness, since it is a broader concept.

2) *Compatibility*

   Compatibility is "the degree to which an innovation is perceived as being consistent with existing values, past experiences, and needs of potential adopters" (Rogers, 1995, p. 15). Innovations that are compatible with individuals' values will be adopted more rapidly (Rogers, 1995). In the context

of online shopping, Compatibility has been found to be an antecedent of Attitude towards using a virtual store (e.g. Chen et al., 2002)

3) *Complexity*

Complexity is an innovation characteristic that reflects the extent in which it is difficult to understand and, consequently, to use (Rogers, 1995). As one can expect, innovations that are simpler to understand will be adopted more rapidly than innovations that require new skills (Rogers, 1995). Thus, complexity is negatively related to innovation adoption and implementation.

4) *Trialability*

Trialability is "the degree to which an innovation may be experienced with on a limited basis" (Rogers, 1995, p. 16). Rogers believes that innovations that can be tried more easily will have a more rapid rate of adoption.

5) *Observability*

Observability is "the degree to which the results of an innovation are visible to others" (Rogers, 1995, p. 16). If results from an innovation are visible to others easily, the faster individuals will adopt an innovation (Rogers, 1995).

The IDT has been applied to explain consumers' online shopping behaviour. For example, Verhoef and Langerak (2001) grounded their study on the IDT to examine the relationship between consumers' perception of relative advantage, compatibility and complexity and their intention to adopt online grocery shopping. The authors left out Trialability and Observability because they considered that these characteristics refer to consumers' perceptions after purchasing grocery online. Their study found that the three innovation characteristics considered were related to intentions to purchase online. Several other studies have also shown that relative advantages, complexity and compatibility explain online shopping (e.g. Choudhury & Karahanna, 2008; Lin, 2007; Vijayasarathy, 2004).

Applications of the Innovation Diffusion Theory to Online Travel Shopping

Compared to buying travel at bricks and mortar travel agencies, purchasing travel online can be considered an innovative application of information technology. Therefore, it can be argued that diffusion and adoption of innovations is an appropriate theory for studying the adoption of online travel shopping (Cao & Mokhtarian, 2005; Moital, Vaughan, Edwards, et al., 2009).

Therefore, it was not surprising to find several studies that have applied the IDT in the context of online travel shopping. However, research has never exclusively used the characteristics of innovations and usually has adapted the IDT by adding other constructs. A common characteristic of the studies stemming from the IDT is that none of them include the trialability or the observability characteristics of innovations. For example, Christou and Kassianidis (2003) used perceived compatibility, perceived complexity and relative advantage as variables influencing the purchase of travel online. They advocated that using the Internet for shopping was not observable by others and, therefore, observability does not appear to be a contributor of adoption in this context. Li and Buhalis (2008) considered these innovation characteristics, along with other factors, such as self-efficacy and internet usage patterns, to examine the probability of booking travel online. Moital, Vaughan, Edwards, et al. (2009) borrowed the relative advantage and perceived complexity characteristics from the IDT, adding involvement and computer use as determinants of online travel purchases.

A summary of the studies examining intentions to purchase travel online and actual purchases with constructs from the IDT and their major findings is shown in Table 2.6. Overall, the results suggest that relative advantage, perceived complexity and perceived compatibility of purchasing travel online do affect online travel purchases. Therefore in the online travel shopping context, it seems appropriate to only consider these innovation characteristics, also supported by the fact that they are the only ones that are found to be consistently related to adoption (Tornatzky & Klein, 1982).

Table 2.6 - Effects of relative advantage, perceived complexity and perceived compatibility on usage and intentions to purchase travel online

Innovation Characteristics	References	Major Findings
Relative Advantage	Christou and Kassianidis (2003); Moital, Vaughan, Edwards, et al. (2009)	A higher level of perceived relative advantage is positively related to intentions to purchase travel online.
Perceived Complexity	Christou and Kassianidis (2003); Powley et al. (2004); Li and Buhalis (2005, 2006); Klein et al. (2005); Moital, Vaughan, Edwards, et al. (2009)	All studies found that perceived complexity is negatively associated with intentions to purchase travel online.
Perceived Compatibility	Christou and Kassianidis (2003); Li and Buhalis (2005)	Both studies found that perceived compatibility is positively associated with intentions to purchase travel online.

In general, diffusion scholars have found relative advantage to be one of the strongest predictors of an innovation's rate of adoption (Rogers, 1995). It is therefore not surprising that many studies addressing online travel purchasing have focused on its advantages in more detail.

Although convenience with using the Internet for travel planning and booking was found to be non-significant to predict the probability of booking online in Morrison et al.'s (2001) model, according to the majority of studies, convenience is one of the main advantages of purchasing travel online (e.g. Bogdanovych, Berger, Simoff, & Sierra, 2006; Christou & Kassianidis, 2003; Heung, 2003). Moreover, it has been evidenced that convenience directly affects intentions to purchase travel online (Jensen, 2009; Kim & Kim, 2004; Kim et al., 2006; Kolsaker, Lee-Kelley, & Choy, 2004). Convenience also plays an indirect role, since it is strongly associated with e-satisfaction, which in turn will affect the willingness to make future purchases (Kim et al., 2006; Kolsaker et al., 2004).

Other relative advantages of online shopping that affect consumers' likelihood of purchasing travel online are perceiving it as enjoyable and entertaining (Morosan & Jeong, 2006; Powley et al., 2004), having a larger product variety (Jensen, 2009) and being time saving (Christou & Kassianidis, 2003; Heung, 2003; Wong & Law, 2005).

Despite the importance of non-financial advantages, lower prices or other financial benefits are important advantages usually associated to online travel purchases: Indeed, a significant number of the articles reviewed provide evidence to support the importance of lower prices on consumers' decision to purchase travel online (e.g. Bai, Hu, Elsworth, & Countryman, 2004; Kim, Kim, & Han, 2007; Kim et al., 2006; Li & Buhalis, 2006; Wong & Law, 2005). Notwithstanding several researchers' claims of the importance of price, Ku and Fan (2009) argue that consumers purchasing travel online consider privacy and safety more relevant.

A summary of the studies examining the effect of advantages of online travel shopping is shown in Table 2.7.

Table 2.7– Relative Advantages of Online Travel Shopping

Relative Advantage	References	Major Findings
Convenience	Morrison, et al. (2001)	No relationship with the likelihood to purchase travel online.
	Heung (2003)	One of the main reasons to purchase travel online.
	Christou and Kassianidis (2003)	The larger the perceived physical effort of in-store travel shopping, the larger the perceived relative advantage of shopping for travel online
	Kolsaker et al. (2004)	Positive correlation with willingness to purchase airline tickets online.
	Kim and Kim (2004)	It affects intention to purchase online.
	Bai et al. (2004)	Main reason why college students purchase travel online.
	Kim et al. (2006)	It affects e-satisfaction and online purchase intention.
	Ku and Fan (2009)	Not a main factor attracting consumers to purchase travel online.
	Mayr and Zins (2009)	Online shoppers value convenience.
	Jensen (2009)	Consumers that value convenience are more likely to purchase travel online.
Time Saving	Morrison et al. (2001)	No relationship with online travel purchases.
	Wong and Law (2005)	Affects intention to purchase travel online.
	Heung (2003)	One of the main reasons to purchase travel online.
	Christou & Kassianidis (2003)	The larger the perceived time pressure, the larger the perceived relative advantage and perceived compatibility of purchasing travel online.

Table 2.7 - Relative Advantages of Online Travel Shopping (Continued)

Relative Advantage	References	Major Findings
Financial Advantages	Morrison, et al. (2001)	Consumers tend to purchase online to get lower prices. Consumers looking for special discounts were more likely to purchase online.
	Kim and Kim (2004)	Price affects intention to purchase online.
	Wong and Law (2005)	Price level was more important than web security and web features.
	Beldona et al. (2005)	Price motivates the purchase of less complex travel online.
	Kim et al. (2006)	Price affects intentions to purchase travel online.
	Kim, Kim, et al. (2007)	Finding low fares was found to be the most critical attribute for consumers to use online travel agencies.
	Ku and Fan (2009)	Price is not a main factor attracting consumers to purchase travel online. Consumers consider privacy, safety and product quality more important when purchasing travel online.
Enjoyment	Powley et al. (2004)	Positive relationship between enjoyment and the likelihood of purchasing travel products online.
	Morosan and Jeong (2006)	Perceived playfulness has an impact on attitude towards online travel shopping.
Product Variety	Jensen (2009)	A greater product variety influences consumers' intention to purchase online.

2.2.3.2. PERCEIVED RISK

Perceived risk is defined by Cox and Rich (1964) as "the nature and amount of risk perceived by a consumer in contemplating a particular decision" (p.33). According to Bauer (1960), consumers' purchasing behaviour involves risk because they are faced with unanticipated and uncertain consequences that can be negative. Since the concept of perceived risk was first introduced in Bauer's seminal work, many researchers have used this construct to investigate consumer behaviour (Jacoby & Kaplan, 1972; Kim et al., 2005) based on the assumption that consumers are more often motivated to avoid mistakes than to maximize utility in purchasing (Mitchell, 1999).

Shopping online is perceived to involve more risk compared to alternatives modes of shopping (Kim et al., 2005; Kwak, Fox, & Zinkhan, 2002; Lee & Tan, 2003; Tan, 1999;

Vijayasarathy, 2004; Zhou, Dai, & Zhang, 2007) and therefore is a useful construct to explain barriers to online shopping (Forsythe & Shi, 2003).

Perceived risk has also been studied in an online context, adapting concepts of offline risk to the online environment. As Lin et al. (2009) point out, when considering the perceived risk with online shopping, there are three risk sources: risk associated with the product itself; risk associated with the Internet as the purchase mode; and risk associated with the site on which the transaction is made (e.g. Jarvenpaa, Tractinsky, & Saarinen, 1999). Considering the risk associated with the product itself in the travel context, the purchase of travel has been associated with higher risk because of its intangibility, complex choices, higher costs (Lin et al., 2009) and higher levels of uncertainty (Mitchell & Greatorex, 1993). Inclusively, other types of risk emerge when focusing on the risk associated with travel as a product, such as terrorism risk and political instability risk (Sönmez & Graefe, 1998).

Applications of Perceived Risk to Online Travel Shopping

In the context of online travel purchasing, the majority of studies have considered perceived risk as the risk associated with the Internet as the purchase mode (e.g. Jensen, 2009; Kolsaker et al., 2004). Other studies have mixed perceived risk associated with the Internet as the purchase mode with the perceived risk of the product (e.g. Kim, Qu, & Kim, 2009). However, the current study considers that in studies concerning online travel shopping it is inappropriate to consider measures of perceived risk focusing on the product, as the risk exists whether it is bought online or offline.

Apparently perceived risk plays a significant role in inhibiting the purchase of travel online. This can be observed in Kolsaker et al.'s (2004) study on why Hong Kong consumers seem resistant to purchase airline tickets online, even though Hong Kong is amongst the countries with the highest broadband penetration and Internet access. Their findings revealed that Hong Kong consumers recognized that it was convenient to purchase airline tickets online, but the risk involved in the purchase outweighed the convenience. Using the same product, Kim, Kim and Leong (2005) have also

investigated the effect of perceived risk on the intention to purchase airline tickets online. In their study, perceived risk was considered a multidimensional construct, consisting of seven types of risk (performance risk, financial risk, physical risk, psychological risk, social risk, time risk and security risk). The authors found that all seven risk dimensions were negatively correlated with consumers' purchase intentions. Using the same seven dimensions of perceived risk, but in the context of the United States, Kim et al. (2009) found the expected, i.e., non-purchasers perceived a higher risk on financial, performance, psychological, security, and time risks than online purchasers of airline tickets. Considering not just airline tickets but all types of travel services, Jensen (2012) realized that perceived risk was negatively related to consumers' intention to purchase travel online. This relationship between perceived risk and online travel purchases also seems to be consistent across studies conducted worldwide. For instance, in Spain, Bigné et al. (2010) noticed that Spanish Internet users who did not buy airline tickets online were essentially concerned on three risk dimensions: performance, psychological and privacy.

A summary of the major findings of studies focusing on perceived risk regarding online travel purchases is presented in Table 2.8.

Table 2.8 – Summary of Studies Regarding Perceived Risk and the Purchase of Travel Online

Construct	References	Major Findings
Overall Perceived Risk	Kolsaker et al. (2004)	Perceived risk has a strong negative correlation with willingness to purchase airline tickets online.
	Chen (2006)	Perceived risk negatively affects trust in an online travel website.
	Kamarulzaman (2007)	Perceived risk is not associated with the adoption of online travel shopping, but is negatively associated with perceived usefulness.
	Ku and Fan (2009)	Perceived risk is one of the main factors considered by customers purchasing travel on the Internet.
	Kim et al. (2009)	Non purchasers perceive higher risks than online purchasers when purchasing airline tickets online.
	Bigné et al. (2010)	Perceived risk negatively affects trust and attitudes towards online shopping.
	Jensen (2009, 2012)	Perceived risk is negatively related with intention to purchase travel online.

Table 2.8 - Summary of Studies Regarding Perceived Risk and the Purchase of Travel Online (Continued)

Construct	References	Major Findings
Financial Risk	Kim et al. (2005)	Financial risk is negatively associated with intention to purchase online.
	Kim et al. (2009)	Financial risk is perceived much riskier by non-purchasers than online purchasers.
Performance Risk	Kim et al. (2005)	Performance risk is negatively associated with intention to purchase travel online.
	Kim et al. (2009)	Performance risk is the most influential type of risk in potential consumers avoiding online purchases.
Psychological Risk	Kim et al. (2005)	Psychological risk is negatively associated with intention to purchase travel online.
	Kim et al. (2009)	Psychological risk is higher for non-purchasers than online purchasers.
Social Risk	Kim et al. (2005)	Social risk is negatively associated with intention to purchase travel online.
	Kim et al. (2009)	No differences of perceived social risk between online purchasers and non-purchasers.
Physical Risk	Kim et al. (2005)	Physical risk does not affect intention to purchase online.
	Kim et al. (2009)	No differences of perceived physical risk between online purchasers and non-purchasers.
Time Risk	Kim et al. (2005)	Time risk is negatively associated with intentions to purchase travel online.
	Kim et al. (2009)	Time risk is higher in non-purchasers than online purchasers.
Security Risk	Kim et al. (2005). (2005)	Security risk is negatively associated with intentions to purchase travel online.
	Kim et al. (2009)	Security risk is higher for non-purchasers than online purchasers.

2.2.3.3. TRUST

Trust is a critical determinant of consumers' online shopping attitude and behaviour (Bourlakis et al., 2008) and is a decisive factor for online companies success (Grabner-Kraeuter, 2002; Lee & Turban, 2001). Indeed, consumers worry about the trustworthiness and reliability of the Internet as a transaction channel. Thus, knowing how trust is developed and how it affects consumers' behaviour online is crucial to create successful marketing strategies (Bart, Shankar, Sultan, & Urban, 2005).

The expressions *trust in Internet shopping* (e.g. Bourlakis et al., 2008; Lee & Turban, 2001) or *trust in online shopping* (Kim et al., 2011) and *online trust* (e.g. Bart et al., 2005; Wang & Emurian, 2005) are used interchangeably and are defined as "an attitude of confident expectation in an online situation of risk that one's vulnerabilities will not be exploited" (Corritore, Kracher, & Wiedenbeck, 2003, p. 740).

Several studies have provided evidence to support that trust affects online purchases (e.g. Corbitt, Thanasankit, & Yi, 2003; Gefen, 2000; Gefen & Straub, 2004; Kim, Ferrin, & Rao, 2008) and attitude towards online shopping (e.g. Hassanein & Head, 2007).

Trust: Application to Online Travel Shopping

In the context of online travel shopping, several studies have explored the importance of trust. For instance, Chen (2006) theorized that consumers' overall trust in online travel websites will influence their intention to purchase online. McCole (2002) and Wen (2010) claimed that consumers' trust in online shopping had a positive effect on intentions to purchase travel online. However, the influence of trust on online travel purchasing is far from agreement. Kamarulzaman (2007) did not find a direct effect of trust on the adoption of online travel shopping, still she did find that the more consumers trust online travel shopping, the lower their risk perception will be, therefore trust has an indirect effect on the adoption of online travel shopping, since they will perceive a higher usefulness in online travel shopping and will be more likely to adopt it. Bigné et al. (2010) also found that trust had an indirect effect on intentions to purchase airline tickets online as it had a significant influence on a favourable attitude towards the use of the Internet to purchase. Thus, regardless of being mediated by perceived risk or not, trust is vital to the success of online travel shopping.

The main findings of the studies addressing trust in the context of online travel shopping are summarized in Table 2.9.

Table 2.9 - Summary of Studies Addressing Trust and the Purchase of Travel Online

References	Major Findings
McCole (2002)	Trust is important to consumers who purchase travel online.
Fam et al. (2004)	Trust leads to a better relationship with the consumer, which will lead to consumer satisfaction.
Chen (2006)	Theorizes that overall trust influences consumer intention and adoption of purchasing travel online.
Kamarulzaman (2007)	Trust has a positive impact on perceived risk, but does not have a direct impact on online travel shopping.
Bigné et al. (2010)	Trust positively affects attitude.
Wen (2010)	Trust has a positive impact on purchase intentions.

2.3. SOCIAL MEDIA IN TRAVEL

Social media has had an impact on every industry across the world and travel is no exception. Undeniably, social media plays an important role in travellers' experience and is one of the most powerful forces driving travel planning and decision making. The following sections explain the importance of social media in travel. The first section briefly explains the importance of information for travellers and how the Internet has revolutionized the information searching process. The second section presents the evolution of social media in general and in travel in particular. This is followed by a section that identifies the most important impacts of social media in travel and how it influences travellers. Finally, the last section describes how travellers use social media.

2.3.1. TRAVEL INFORMATION SEARCH BEHAVIOUR

As many other products and services, travellers need to search for information to make decisions, such as which destination, airline company or hotel to choose. More, compared to other services or products, travel normally requires more information processing before making a decision, because the purchase of travel products is considered to be highly risky (Huang, Chou, & Lin, 2010). Indeed, to consume tourism products, individuals must leave their daily environment and move to a geographical different place (Werthner & Ricci, 2004) and when making travel decisions, only descriptions are available (Werthner & Klein, 1999). On the other hand, consumers cannot try travel products/services before purchasing, making it difficult to evaluate the value for money before the actual experience (Kim et al., 2009). In this context, information search decreases uncertainty associated with travel, enhancing the quality of tourists' trips (Fodness & Murray, 1997).

The information search process can be either internal or external (Gursoy & McCleary, 2004). Internal search is when consumers rely on information stored in memory and occurs prior to external search, while external search requires the search of information from the environment (Kim, Lehto, & Morrison, 2007; Schmidt & Spreng, 1996). For most travel related decisions, the search is predominantly external (Schmidt & Spreng, 1996). In the early nineties, the external sources most

used by tourists when planning trips were family and friends, destination specific literature, media, and travel consultants (Peterson & Merino, 2003).

However, in the past 15 years, the Internet has revolutionized the way travellers search for information (Arsal, Backman, & Baldwin, 2008; Engel, Blackwell, & Miniard, 1995). Since tourism services are intangible, they cannot be physically inspected before purchasing. To attract consumers, tourism services (e.g. travel agencies and tour operators) depend upon descriptions and representations (e.g. brochures) (Buhalis, 1998). Because of the Internet's virtual capabilities, it can include many different physical sources of information, such as mass media, word-of-mouth communication and expert reports and opinions (Kim, Lehto, et al., 2007) and it can provide timely and accurate information relevant to travellers. This information can be provided not only by pictures but also by videos and sounds, with the advantage of being more inexpensive than traditional means (Buhalis, 1998). The Internet provides nearly limitless amounts of information with relatively minimal expenditures of effort or money (Kim, Lehto, et al., 2007).

The Internet presents other advantages for pursuing travel information. Indeed, travellers can search and view travel goods and services without any time limitations or physical and geographical constraints (Law, Law, & Wai, 2002). Hence, it is not surprising that the Internet has become increasingly popular as a means to search for travel information (Xiang & Gretzel, 2010). In a survey of online American travel planners, the Internet was identified as the single most widely used source for travel information by 85% of respondents (Fesenmaier & Cook, 2009). Developments in search engines, carrying capacity and speed of information transfer, along with the increase in ownership of personal computers and access to the Internet have influenced the number of travellers that use technologies for planning their travels (Buhalis & Law, 2008; Law et al., 2002).

Travellers around the world rely on the Internet to search for travel information and plan their travel (Bai, Law, & Wen, 2008; Jeong & Choi, 2005; Morosan & Jeong, 2008). More recently, social media have revolutionized not only the search for travel information and planning of travel, but also the sharing of travel experiences.

2.3.2. THE EVOLUTION OF SOCIAL MEDIA

Even though Kaplan and Haenlein (2010) believe that the era of Social Media started 20 years earlier, with a social networking site named "Open Diary", the Merriam-Webster Dictionary (http://www.merriam-webster.com) posits that the first known use of social media dates from 2004 and is defined as "forms of electronic communication (as websites for social networking and micro blogging) through which users create online communities to share information, ideas, personal messages, and other content (as videos)". Social Media was enabled by Web 2.0, a term used to describe a new platform that provides users with the ability to publish content easily and for free. Web 2.0 allows content and applications to be created and published in a collaborative and participatory way and to be continuously modified (Kaplan & Haenlein, 2010). Web 2.0 in tourism is referred to as Travel 2.0, describing a new generation of travel websites that facilitate social interaction among travellers (Hee, Lee, & Law, 2012).

Frequently associated with social media and Web 2.0 is the term user generated content (UGC). This concept achieved popularity in 2005 and describes the various forms of media content that are publicly available and created by end-users (Kaplan & Haenlein, 2010). This new method of communication, that has also been referred to as online word of mouth (Blackshaw & Nazzaro, 2006; Gretzel, Kang, & Lee, 2008; Pan & Crotts, 2012; Pan, MacLaurin, & Crotts, 2007), has revolutionized the way people search for information, as consumers are no longer dependent on what companies have to say, because they can access information provided by their own peers (O'Connor, 2008). Consumers play such an important role creating and controlling information that TIME magazine nominated "You" as person of the year in 2006 (O'Connor, 2008; Yoo & Gretzel, 2012). Indeed, social media empowers consumers (Pan et al., 2007) that now have more power than vendors (O'Connor, 2008).

But what is really significant is that the evolution of social media is changing how people search, shop for and purchase travel (PhoCusWright, 2011). Different statistics evidence the importance of social media in the travel context. PhocusWright, one of the leading travel industry research firms, found that unique monthly visitors

to social travel sites increased 34% between the first half of 2008 and the last half of 2009 (Fairlie, 2010). The World Travel Market Industry Report (2010) revealed that 36% of travellers from the United Kingdom used social media before booking a holiday. Gretzel et al. (2007) report that looking at other consumers' comments/materials is the most frequent travel related activity online. In a different study, 73% of the respondents find it better to read consumer reviews about a hotel than to rely on a hotel's description of itself (Cox, Burgess, Sellitto, & Buultjens, 2009). Several sources have indicated that travellers consider UGC more credible and trustworthy than reviews from professionals or marketer information (e.g. Compete Incorporated, 2007; Fotis, Buhalis, & Rossides, 2012; Gretzel & Yoo, 2008).

Indeed, online social networking applications have become highly popular throughout the hospitality industry (Kasavana et al., 2010). One of the most know is Tripadvisor.com, the largest online network of travel consumers (O'Connor, 2008). As of March 2011, it featured over 60 million travel reviews and opinions and more than 6,000,000 photos posted by travellers around the world (Tripadvisor, 2012b). Forty new contributions are posted every minute (Tripadvisor, 2012b).

More, since search engines are a popular tool used to search for travel information, travellers will inevitably stumble across social media websites because they are search-engine friendly (Gretzel, 2006). Xiang and Gretzel (2010) found that when using Google to plan for a trip, 10% of the results were social media websites. Likewise, in a similar study conducted more recently by Walden, Carlsson, and Papageorgiou (2011), almost 28% of the hotel search results from search engines lead to a social media website. Another interesting result in this study is that over 50% of the social media results originate from Tripavisor, Real Travel, Wikio and Virtual Tourist.

2.3.3. THE IMPACTS OF SOCIAL MEDIA ON TRAVEL DECISIONS

According to numerous studies, social media have an impact on travel planning and decision making. For example, Yoo and Gretzel (2012) found that online travellers who use social media perceive some impact on their decision making, with greatest

impacts on where to stay overnight (81.8%), where to eat (76.6%) and what to do (76.6%). Similarly, other studies found that 84% of travel review users considered that reviews had a significant influence on their purchase decisions (ComScore, 2007) and 6 out of 10 respondents changed their travel plans after using social media (Fotis et al., 2012). Chung and Buhalis (2008b) reported that social media was the most influential factor in the choice of a tourism destination. In terms of money, Compete Incorporated (2007) estimates that consumer generated content influences 10 billion dollars in online travel bookings.

Regarding hotels, exposure to an online hotel review improves the probability for consumers to consider booking a room in the reviewed hotel (Vermeulen & Seegers, 2009). This conclusion is echoed in other studies (Sparks & Browning, 2011; Ye, Law, & Gu, 2009; Ye, Law, Gu, & Chen, 2011) that have found that online user reviews have a persuasive impact on online sales of hotels. Review readers are also willing to pay 22% more for travel with excellent rating than rather just good (ComScore, 2007). It is also interesting to note that travellers who read online reviews more frequently are more likely to be highly influenced by other travellers' reviews (Gretzel et al., 2007).

The significant impact of social media on travel decisions may be the result of travellers considering it more credible and trustworthy than reviews from professionals or marketer information (e.g. Compete Incorporated, 2007; Fotis et al., 2012; Gretzel & Yoo, 2008). Clearly, social media has assumed an important role in influencing travellers' behaviours.

2.3.4. TRAVELLERS USE OF SOCIAL MEDIA

The use of social media for travel related purposes occurs before, during and after the trip. Before the trip, travellers search for ideas on where to go, information on accommodation options, excursions and other leisure activities (Cox et al., 2009; Fotis et al., 2012). Cox et al. (2009) found that social media are predominantly used during this stage. During the trip, travellers use of social media for travel purposes consists in finding holiday related information (Fotis et al., 2012). During these stages, travel reviews play an important role in the trip planning process, by providing ideas,

reducing risk and making it easier to imagine what places will be like (Gretzel & Yoo, 2008). Interestingly, a higher percentage of travellers turn to UGC when visiting a destination for the first time, as well as visiting an international destination (Simms, 2012), supporting the important role social media plays in reducing risk. After the trip, travellers use social media to post information regarding their trip through comments, photos or pictures (Parra-López, Gutiérrez-Taño, Díaz-Armas, & Bulchand-Gidumal, 2012).

Travellers find motivation to use social media for travel purposes in the perceived functional (informational) benefits that social media provide (e.g. "social media tools enable me to keep up to date with the tourist sites" and "social media tools give me the possibility to exchange information about tourist sites") (Parra-López et al., 2012). In fact, Chung and Buhalis (2008a) report that information acquisition was the most important factor influencing travellers to participate in online travel communities. However, other studies have shown that reading travel reviews added fun to the trip planning process, made travel planning more enjoyable and made travellers feel more excited about travelling (Gretzel & Yoo, 2008; Gretzel et al., 2007). Chung and Buhalis (2008b) found that users of online travel communities (e.g. Tripadvisor.com, VirtualTourist.com) participated in the online community activities not only for the informational benefits, but also for the hedonic benefits (i.e. "Having fun with contents", "Entertainment" and "To be amused by members"). In a different study, hedonic needs were pointed as an important predictor for the level of participation in an online travel community (Wang & Fesenmaier, 2004). More recently, the positive relationship between the perceived hedonic benefits and motivation for using social media for travel purposes was confirmed by Parra-López et al. (2012). Focusing on the after trip phase, Yoo and Gretzel (2011) found that enjoyment is a driver of travel content generated media creation.

This empirical evidence demonstrates that individuals use travel related social media not only for information purposes but also because they consider its use enjoyable. Web 2.0 has made information search more personalized, active and interactive, which contributes to its hedonic value (Gretzel, 2012).

Regardless of the importance of social media, travellers' level of consumption of social media has received little attention. While some individuals actively participate in travel related social media by posting comments, photos and videos, others do not demonstrate such an active role. According to Forrester Research, 75% of Internet users use social media, but less than half actively participate (Osborn, 2009). Shao (2009) suggests that individuals deal with UGC in three ways: by consuming, by participating, and by producing. Consuming refers to the individuals who only read, or view but never participate. Participating includes both user-to-user interaction and user-to-content interaction (such as ranking the content, adding to playlists, sharing with others, posting comments, etc.). Producing encompasses creation and publication of one's personal contents, such as text, images, audio, and video. Most travellers are just consumers or participators (Yoo & Gretzel, 2011). Pan and Crotts (2012) report that travel blogs and social media sites have long recognized that there are far more people consuming information than generating it. Indeed, Yoo and Gretzel (2011) found that only 17% of the surveyed online travellers that use travel related consumer generated media have ever posted travel materials online.

Gretzel et al. (2007) found important differences between members of Tripadvisor concerning their social media use. For example, in comparison to non-writers, travel review writers are more involved in trip planning and are more influenced by reviews. More, travellers that read travel reviews more often have higher incomes and travel frequently for pleasure, representing an attractive market for travel marketers. A Forrester Research report also advises online travel marketers to pay attention to a group of online leisure travellers termed conversationalists, who participate in social media conversation, since they have the potential to drive sales (Harteveldt, Evans, Stark, & Zeidler, 2010).

These results clearly reveal that there are different levels of involvement with social media for travel purposes which induce different behaviours. Since no studies relate the use of travel social media to the purchase of travel online, this may represent a promising area of research that will be explored in the current study.

CHAPTER 3

THE CONCEPTUAL MODEL AND HYPOTHESES

3.1. INTRODUCTION

The previous chapter presented the literature review conducted in order to determine the current state of knowledge concerning antecedents of online travel shopping, uncovering areas where research is needed. The review created a firm foundation for the development of the conceptual model proposed in the current chapter, providing the justification for the variables being used and how the relationships among them may be conceptually modelled.

Models are "simplified descriptions of a system or a structure that are devised to assist the process of making calculations concerning the relationships between key variables and of making predictions" (Kent, 2007, p. 56). According to Veal (2006) the development of a conceptual model can be thought as involving four elements:

1) Identifying the concepts;
2) Exploring and explaining the relationships between concepts;
3) Defining concepts;
4) Operationalizing concepts.

This is an interactive process that involves going backwards and forwards until a satisfactory solution is reached (Veal, 2006). Moreover, a model should be developed based on theory (Hair, Black, Babin, & Anderson, 2010). This chapter presents the result of this process for the current research.

3.2. MAIN AIMS AND CHARACTERISTICS OF THE MODEL

The main generic aim of the conceptual model developed in the current study is to determine which factors affect intentions to purchase travel online and among those factors which are the most relevant. The model is considered to be holistic because it integrates constructs based on the well-grounded theories, the TRA, the TPB, the TAM and the IDT, but also incorporates other constructs that have been found to be relevant, yet unexplored or misunderstood. By adding them to the model, it will be possible to evaluate them compared to the variables from the TRA, the TPB and the IDT. Furthermore, it proposes a new construct, termed social media involvement, defined as a person's level of interest with social media (based on their use, interest and enjoyment regarding social media websites).

Additionally, the model considers the multidimensionality of three constructs (perceived risk, perceived behavioural control and social media involvement), for a more comprehensive understanding of the factors that influence the purchase of travel online. A multidimensional construct consists of several related dimensions conceptualized under an overall abstraction (Law, Chi-Sum, & Mobley, 1998) and provide detail on different aspects of a construct (Petter, Straub, & Rai, 2007). They are also referred to as hierarchical or second order constructs (e.g. Becker, Klein, & Wetzels, 2012; Straub, Boudreau, & Gefen, 2004; Wetzels, Odekerken-Schroder, & van Oppen, 2009).

In this manner, the model is considered to be sophisticated by incorporating many variables and multidimensional constructs. Such type of models are needed in order to enhance our understanding of consumer behaviour online (Kim et al., 2005) and requires a reliable analysis technique like structural equation modelling.

As abovementioned, in order to include a rich set of variables in the conceptual model, several contributions from user acceptance models were sought, namely the TRA, the TPB, the TAM and the IDT. The reasons for merging these theories to predict intentions to purchase travel online are manifold:

- Firstly, no study addressing online travel shopping has attempted to do so;
- These theories have received substantial empirical support in explaining users' acceptance in several domains, notably information systems, and specifically online shopping (e.g. Bhattacherjee, 2000; George, 2004; 2000; Pavlou & Fygenson, 2006; Shim et al., 2001; Yu & Wu, 2007);
- The proposed model seeks to take advantage of the validity, parsimony and reliability that these theories provide as determinants of behaviour, adding other constructs in order to improve explanatory and predictive power;
- The TRA performs extremely well in predicting activities involving an explicit choice among alternatives (Sheppard et al., 1988), which is the case of purchasing travel, since it can be bought online or offline;
- The constructs employed in the TAM are fundamentally a subset of the perceived innovation characteristics and, if integrated, they can provide an even stronger model than either standing alone (Wu & Wang, 2005). Indeed, the TAM and the IDT are extremely similar in some constructs and supplement one another (Moore & Benbasat, 1991; Wu & Wang, 2005). Moreover, compared to the TAM, the IDT includes a number of additional factors that explain users' adoption and acceptance (Van Slyke, Lou, & Day, 2002).

3.3. CONSTRUCTS AND HYPOTHESES

According to Durrheim and Painter (2008), during the stage of conceptualization of a model it is essential to develop a theoretical and conceptual definition of the constructs to be measured. Thus, the attribute being measured should have sound theoretical grounding. The constructs used in the proposed model follow this criterion, since they are grounded on several well established consumer behaviour theories and literature reviewed in the previous chapter. Constructs from the TAM, namely, perceived usefulness and perceived ease of use, are not visible in the model

as they are similar constructs to perceived relative advantages and perceived complexity from the IDT. However, several relationships between the constructs in the proposed model are based on the TAM. It should also be noted that only three of the five characteristics from the IDT were included, as only these were considered to be appropriate for online travel shopping: compatibility, relative advantage and complexity (as discussed in chapter 2).

The remainder of this section presents the constructs used in the proposed model and their conceptual definition. The relationships between the constructs are then formalized with the hypotheses, defined by Neuman (2011) as formal statements that present the expected relationship between an independent and dependent variable. According to Collis and Hussey (2003), hypotheses are the foundation of scientific research that provide the indispensable relationship between theory and investigations, which leads to the addition of knowledge. The formalized hypotheses are consistent with theory and falsifiable, i.e., capable of being refuted based on the results of the study (Popper, 1963).

3.3.1. INTENTIONS TO PURCHASE TRAVEL ONLINE

Intention to purchase travel online is the main dependent variable of the model, derived from the TRA. As previously noted in the literature review, the TRA posits that behavioural intentions, rather than attitudes, are the main predictors of actual behaviour (Fishbein & Ajzen, 1975). It is assumed that intentions capture the motivational factors that influence behaviour and the stronger the intention to engage in behaviour, the more likely should be its performance (Ajzen, 1991).

Most studies addressing online shopping behaviour do not examine the relationship between intentions and actual behaviour. Indeed, Cao and Mokhtarian (2005) analysed 65 empirical studies of online shopping behaviour and concluded that most of the studies either included intentions to purchase online or actual online shopping behaviour. Other researchers (e.g. Ajzen, 2011a) have included both intentions and actual behaviour; however intention and actual behaviour were measured at the same moment of time. Ajzen (1985) argues that it may not be of much value to

measure intention in close temporal proximity of the behaviour. In the context of online shopping, aware of this fact, researchers have considered time frames of 30 days (Pavlou & Fygenson, 2006) and 3 months (Limayem et al., 2000) between intentions and actual behaviour.

With these considerations in mind, the proposed model only includes intentions to purchase online and not actual behaviour for several reasons:

- Analysing past behaviour is not always a good predictor of future behaviour (Bamberg, Ajzen, & Schmidt 2003).

- If both intentions and actual behaviour were included, it would be necessary to consider a time interval between the two moments, as suggested by Ajzen (1985). This raises several problems. First, even if a time interval was considered, intentions may not be carried out simply because travel had not been purchased during the time interval considered between the first survey and the second survey. Indeed, the purchase of travel, in average, only occurs a few times a year. For instance, Europeans only made 2.3 trips in 2011. Therefore, if actual behaviour were to be measured, it would be appropriate to consider at least a time interval of six months. This would imply an enormous delay in the thesis delivery. Second, it would require surveying the same participants twice, which would be an impossible task due to the anonymity of the first questionnaire. A possible solution to overcome this limitation could be dropping the anonymity. However, not preserving the anonymity could have seriously affected the response rate and the truthfulness of the responses.

- Accurate behavioural prediction is feasible when appropriate measures of behavioural intentions are used (Ajzen, Czasch, & Flood, 2009; Ajzen & Fishbein, 1973). Indeed, different studies provide evidence to support that the TRA permits highly accurate prediction between intentions and actual behaviour. For instance, in a meta-analysis conducted by Sheppard et al. (1988), consisting of 87 studies that applied the TRA, there was a significant and substantial relationship between individual's intention and behaviour.

> Behavioural intentions have been well established as a strong predictor of actual usage of information technologies (e.g. Davis et al., 1989; Venkatesh et al., 2003) and of online shopping (e.g. Ajzen, 2011a; Chen et al., 2002; Limayem et al., 2000; Lin, 2007; Pavlou & Fygenson, 2006). Furthermore, in voluntary settings, as in the case of online travel shopping, intention to behave has been postulated as the best predictor of behaviour (Moital, Vaughan, & Edwards, 2009).

3.3.2. ATTITUDE TOWARDS ONLINE TRAVEL SHOPPING

Attitude towards online shopping was selected since it is a construct from the TRA and the TPB, theories on which the model is grounded. According to these theories, intentions are the result of attitudes towards the outcomes of behaviour (Fishbein & Ajzen, 1975). It is expected that positive attitudes will lead to higher intentions to perform the behaviour. Following Fishbein and Ajzen (1975), in this study context, attitude is defined as the strength of a person's feeling of favourableness or unfavourableness towards the purchase of travel online.

In the travel context, several studies have evidenced that attitude towards online shopping positively influences intentions to purchase travel online (Bigné et al., 2010; Lee et al., 2007; Morosan & Jeong, 2006; Morosan & Jeong, 2008). Additionally, among the variables Bigné et al. (2010) included in their study, attitude had the strongest effect on intentions to purchase travel online.

Therefore, as intention is determined by the person's positive or negative attitudes towards the decision it is expected that:

H1: Individuals' attitude towards online travel shopping positively influences intentions to purchase travel online.

3.3.3. COMMUNICABILITY

Several studies have evidenced that subjective norm did not have a significant effect on online shopping (e.g. George, 2004) nor on intentions to purchase online (e.g. Wang et al., 2007). More recently, a study in the context of online travel shopping evidenced that social influence did not affect online purchase intentions (San Martín & Herrero, 2012).

In contrast, Burnkrant and Cousineau (1975) believe that one of the most pervasive factors that influence an individual's behaviour is the influence of others. However, since prior work has found that subjective norm has not performed well in explaining intentions to purchase online, this study suggests employing *communicability*, a different form of social influence. Communicability is related to the influence of family and friends, in the sense that people are more likely to book online and to frequently book travel online if they know that other people are doing likewise (Morrison et al., 2001). Yet, there is no general consensus on this matter. Indeed, Li and Buhalis (2006) asserted that communicability was not important in explaining the adoption of online travel shopping. To further explore this inconsistency the following hypothesis is formulated:

H2: Communicability positively influences intentions to purchase travel online.

Kim et al. (2009) also found that the recommendation of family and friends were important to reduce the risk perceived with online travel purchases. Thus, knowing that families and friends purchase online can relieve customer's anxiety in purchasing on-line and reduces perceived risk (Corbitt et al., 2003), it is proposed that:

H3: Communicability negatively influences perceived risk with intentions to purchase travel online.

3.3.4. PERCEIVED COMPLEXITY

Perceived complexity is an innovation characteristic that reflects the extent in which the innovation is difficult to understand and, consequently, to use (Rogers, 1995). For the purpose of this study and based on this definition, perceived complexity is the degree to which purchasing travel online is perceived to be difficult.

The measurement scales and definition of complexity is considerably similar to TAM's prceived ease of use (Venkatesh et al., 2003). Several researchers have highlighted these similarities (Davis, 1989; Moore & Benbasat, 1991; Wu & Wang, 2005). Common sense and theory suggest that innovative technologies that are perceived to be easier to use and less complex have a higher possibility of acceptance and use by potential users (Davis et al., 1989; Shih & Fang, 2004). Therefore, the TAM posits that ease of use is a determinant of attitude (Davis, 1989). Based on this, it is expected that the perceived complexity of online travel shopping will be a determinant of attitude towards online shopping. Thus:

H4: Individuals' perceived complexity of online travel shopping will be negatively related to attitude towards online travel shopping.

3.3.5. PERCEIVED COMPATIBILITY

Perceived compatibility is a construct borrowed from the IDT defined as "the degree to which an innovation is perceived as being consistent with existing values, past experiences, and needs of potential adopters" (Rogers, 1995, p. 15). Based on Vijayasarathy's (2004) definition of compatibility applied to online shopping, for the purpose of the current study, compatibility is the extent to which consumers believe that purchasing travel online fits/matches their lifestyle, needs, and shopping preference.

Research has supported the positive and significant relationship between compatibility and attitude towards online shopping (e.g. Chen et al., 2002; Vijayasarathy, 2004). Bellman, Lohse, and Johnson (1999) reported that individuals who spent a considerable amount of time using the Internet and other related

technologies such as e-mail in their job or personal life would be more likely to shop on-line. Christou and Kassianidis (2003) and Li and Buhalis (2006) also found that perceived compatibility was positively associated with intentions to purchase travel online. Thus, it is hypothesized that:

H5: Individual's perceived compatibility with online travel shopping will be positively related to attitude towards online travel shopping.

H6: Individual's perceived compatibility with online travel shopping will be positively related to intentions to purchase travel online.

3.3.6. PERCEIVED BEHAVIOURAL CONTROL

Perceived behavioural control is a construct from the TPB, defined as "people's expectations regarding the degree to which they have requisite resources and believe they can overcome whatever obstacles they may encounter" (Ajzen, 2002b, p. 676). When people believe that they have the resources and opportunities and that the obstacles they may encounter can be overcomed, then they shall have the confidence to perform the behaviour, and therefore exhibit a high degree of perceived behavioural control (Ajzen, 2002b).

As discussed in chapter 2, researchers have conceptualized and operationalized perceived behavioural control differently. The current study follows Ajzen's (2002b) recommendations and decomposes perceived behavioural control in two components: self-efficacy and controllability. This structure maintains the parsimonious unitary view of perceived behavioural control and provides a more detailed prediction of external control beliefs by allowing a distinct prediction of self-efficacy and controllability, which will lead to a better prediction of perceived behavioural control, intention and behaviour (Pavlou & Fygenson, 2006). To the best of our knowledge, no study focusing on online travel purchasing intentions has conceptualized perceived behavioural control in this way.

For the purpose of this study, the following definitions will be considered:

- ***Online travel shopping self-efficacy:*** Following Vijayasarathy (2004) and Pavlou and Fygenson (2006), online travel shopping self-efficacy is defined as consumers' self-assessment of their own capabilities to purchase travel online.
- ***Controllability***: Grounded on Pavlou and Fygenson's (2006) and Ajzen's (2002b) definitions, controllability is defined as individual judgements about the availability of resources and opportunities to purchase travel online.

The relationship between perceived behavioural control and intentions to purchase travel online has not been fully explored. Bigné et al.'s (2010) study was the only one that used the perceived behavioural control construct and found that it did not directly influence users' intention to purchase airline tickets online, but did influence attitude, which in turn influenced intention. Assuming that self-efficacy is a similar concept to perceived behavioural control, Li and Buhalis (2005, 2006) found that it has a positive relationship with online travel purchases.

Grounded on the TPB, that conceptualizes that perceived behavioural control is held to contribute to intentions (Ajzen, 1991), this study proposes the following hypothesis:

H7: Individual's perceived behavioural control over purchasing travel online positively influences intentions to purchase travel online.

Hernandez et al. (2009) demonstrated that individuals who felt they had the capability of purchasing online (perceived behavioural control) would perceive online shopping as easier to use. Hence, it is hypothesized that:

H8: Individual's perceived behavioural control over purchasing travel online negatively influences perceived complexity.

3.3.7. PERCEIVED RELATIVE ADVANTAGE

Research on the relative advantage of online shopping is based on well-established theories, notably the TAM and the IDT. As seen in chapter 2, one of the IDT core constructs is relative advantage, a concept similar to TAM's perceived usefulness. Since the current study is interested in understanding users' perceptions of the advantages of online travel shopping over traditional channels, relative advantage rather than perceived usefulness is more adequate since it is a broader concept. For the purposes of the current study, relative advantage is defined as the degree to which online travel shopping provides benefits to consumers or is better than its alternatives, such as purchasing at high street travel agencies or directly contacting travel suppliers by telephone or fax.

Rogers (1995) suggests that relative advantage may be measured in economic terms or convenience. It is however the nature of the innovation that determines what specific type of relative advantage is important to adopters. In the particular case of online travel shopping, what matters is whether individuals perceive it as advantageous.

From the literature, several major issues emerge as advantages of online travel shopping and have typically included convenience (Heung, 2003; Jensen, 2009; Kim & Kim, 2004; Kim et al., 2006; Kolsaker et al., 2004; Mayr & Zins, 2009), financial advantages, such as lower prices (Beldona, Morrison, & O'Leary, 2005; Kim, Kim, et al., 2007; Kim & Kim, 2004; Kim et al., 2006; Morrison et al., 2001), time saving (Christou & Kassianidis, 2003; Heung, 2003; Wong & Law, 2005), enjoyment (Cho & Agrusa, 2006; Powley et al., 2004) and product variety (Jensen, 2009).

The current study considers that these are the pertinent dimensions of relative advantage, because they represent ways in which online travel shopping can offer advantages over traditional channels. Hence, relative advantages of online shopping is conceptualized as a multidimensional construct that captures these benefits of online shopping , summarized in table Table 3.1. This overall abstraction is believed

to be theoretically meaningful and parsimonious to use as a representation of the dimensions (Law et al., 1998).

Table 3.1– Relative Advantage Dimensions in the Context of Online Travel Shopping

Relative Advantage Dimensions	Definition
Convenience	Individual's perception regarding the convenience of purchasing travel online compared to purchasing travel offline.
Financial	Individual's perception regarding better prices and other financial advantages of online travel shopping compared to purchasing travel offline.
Time Saving	Individual's perception regarding time saved purchasing travel online compared to purchasing travel offline.
Enjoyment	Individual's perception of the enjoyment provided by purchasing travel online compared to purchasing travel offline.
Product Variety	Individual's perception of a higher product variety offered online compared to offline.

Empirical evidence has shown that relative advantage is consistently the best predictor of adoption of information technologies (e.g. Moore & Benbasat, 1991; Venkatesh et al., 2003). In the travel context, relative advantage of online shopping has been found to affect intentions to purchase online (Christou & Kassianidis, 2003; Kim & Kim, 2004; Kim et al., 2006; Moital, Vaughan, Edwards, et al., 2009; Wong & Law, 2005) and also influences the adoption of online travel shopping (Heung, 2003; Jensen, 2009; Kamarulzaman, 2007; Morrison et al., 2001).

Based on these arguments, the following hypothesis is posited:

H9: Perceived relative advantages of online travel shopping will be positively related to intentions to purchase travel online.

Additionally, grounded on the TAM that suggests the perceived usefulness (that is considered to be integrated in the relative advantages construct) affects attitude and the TRA that posits that attitude is predicted from a person's salient beliefs regarding online travel shopping, it is hypothesised that:

H10: Perceived relative advantage of online travel shopping will be positively related to attitudes towards online travel shopping.

To the best of our knowledge, a relationship that has never been explored in online shopping is the one between perceived relative advantages and trust. In the context of Internet banking, Suh and Han (2002) found that customers perceived usefulness had a positive impact on trust in Internet banking. Based on this finding, it is argued that individuals who perceive the relative advantages of online travel shopping are more likely to trust online shopping and therefore:

H11: Perceived relative advantage of online travel shopping will increase trust in online travel shopping.

3.3.8. PERCEIVED RISK

The present study is concerned in examining the perceived risk with the Internet as the purchase method for travel and not with the travel service itself. Accordingly, perceived risk is defined as the potential loss perceived by a consumer in considering the purchase of travel online when compared to the purchase of travel offline.

Surprisingly, very little research has looked at perceived risk associated with online travel shopping (Lin et al., 2009). Therefore, perceived risk was added to the model to further investigate its role in online travel shopping. Since the limited research has attested that perceived risk has a negative effect on intentions to purchase travel online (Jensen, 2012; Kolsaker et al., 2004) and on attitude towards online travel shopping (Bigné et al., 2010) the following research hypotheses are proposed:

H12*: The perceived risk in online travel shopping has a negative influence on attitude towards online travel shopping.*

H13*: The perceived risk in online travel shopping has a negative influence on intentions to purchase travel online.*

3.3.9. TRUST

Trust in online travel shopping is defined as "an attitude of confident expectation in an online situation of risk that one's vulnerabilities will not be exploited" (Corritore et al., 2003, p. 740). Research has shown that people are more prone to purchase online if they perceive a higher trust in online shopping (e.g. Corbitt et al., 2003). In a more extreme view, Wang and Emurian (2005) posit that the future of online shopping depends on trust. Thus, trust was added to the model as it is a key factor concerning online purchases.

Kim et al. (2011) state that there is a lack of research regarding perceived trust in online shopping for tourism products and services. Therefore, it is relevant to add trust since the few studies that have considered trust in online travel shopping have also produced mixed results (e.g. Bigné et al., 2010; Kamarulzaman, 2007; Wen, 2010).

The modest research in this field has found that trust influences attitude towards online shopping (Bigné et al., 2010) and negatively influences perceived risk (Kamarulzaman, 2007). McCole (2002) also theorized that trust has an effect on the propensity to purchase travel online. Thus, it is hypothesized that:

H14: Trust in online travel shopping has a positive influence on attitude towards online shopping.

H15: Trust in online travel shopping has a negative influence on perceived risk in online travel shopping.

H16: Trust in online travel shopping has a positive influence on intentions to purchase travel online.

3.3.10. SOCIAL MEDIA INVOLVEMENT

Although there are many studies focusing on traveller's use of social media and its effect on travel planning and travel decisions, as discussed in the previous chapter, the influence of social media use on intentions to purchase travel online has been overlooked. Indeed, no study has investigated if the use of social media was related to the purchase of travel online. Given the popularity of social media in the travel industry nowadays, examining this relationship is paramount. At the same time, exploring this relationship use will lead to a better understanding of travellers' use and involvement with social media.

Social media use was operationalized with a construct termed social media involvement. Grounded on Rothschild's (1984)definition of involvement, the current study defines social media involvement as a person's level of interest, emotional attachment or arousal with social media. The adoption of this definition to explore travellers' involvement with social media seems appropriate to extend the knowledge of social media use for travel purposes.

Researchers have argued that involvement can be conceived in behavioural terms. For instance, Stone (1984) defined involvement as the time and/or intensity of effort expended in pursuing a particular activity. Engel et al. (1995) also suggested that involvement could be measured by the time spent in product search, the energy spent and the extent of the decision process. However, other measures of involvement have included mental states, such as enjoyment/pleasure (Laurent & Kapferer, 1985) and importance/interest (Laurent & Kapferer, 1985; Mittal, 1989; Zaichkowsky, 1985).

This study takes Stone's (1984) view that involvement is both a mental state and a behavioural process. Thus, social media involvement is conceptualized as a multidimensional construct based on people's usage of social media (consumption and creation), their level of interest in social media and perceived playfulness with the use of social media, as shown in Table 3.2.

Table 3.2– Dimensions of Social Media Involvement

Social Media Involvement Dimensions	Definition
Social Media Consumption	Extent to which individuals use social media for travel related information (for example reading reviews or watching videos).
Creation of Social Media Content	Participation on travel related social media by writing reviews, posting photos and videos.
Perceived playfulness	Extent to which using social media website for travel purposes is perceived to be entertaining and fun.
Level of Interest	Overall interest in travel related social media.

From a behavioural perspective, individuals that are highly involved with social media will be more engaged with travel related social media. Indicators of such behaviour will be their social media consumption and creation behaviour. On the other hand, individuals engage in a particular behaviour if it provides them enjoyment and fun. For example, Teo, Lim, and Lai (1999) found that perceived enjoyment had significant effects on Internet usage. Shao (2009) argues that people use social media for entertainment purposes such as escaping from problems, relaxing, filling time and seeking emotional release. It is also expected that individuals using travel related social media and experiencing enjoyment are more absorbed and interested in interacting.

In sum, individuals with a high social media involvement have a high interest in travel related social media, are highly active on social media, searching and posting travel related information and enjoy using social media for travel purposes.

Social media involvement is a new construct and therefore, has never been related to other constructs. Several studies did find that consumers' involvement with online travel shopping was positively related to online travel purchasing (Kamarulzaman, 2007; Moital, Vaughan, & Edwards, 2009; Moital, Vaughan, Edwards, et al., 2009).

Furthermore Wen (2010) claims that consumers with higher intentions for searching travel information online are more likely to purchase travel online. This is consistent with the findings of several studies (Jensen, 2012; Susskind & Stefanone, 2010; Wolfe et al., 2005), which found that online travel information search and online travel purchasing have a positive relationship.

Based on these evidences, this study proposes that travellers with higher social media involvement will be more likely to purchase travel online than those with lower levels of involvement. Therefore:

H17: Individuals' social media involvement is positively related to intentions to purchase travel online

Moreover, since more involved consumers have a great deal of information prior to purchase, they are more prone to take risks (Venkatraman, 1989). In the context of travel related social media, Lin et al. (2009) found that visiting online travel communities reduced perceived risk. Therefore, it is proposed that:

H18: Individuals' social media involvement is negatively related to perceived risk in online travel shopping

Table 3.3 resumes the proposed hypotheses and indicates their theoretical support.

Table 3.3–Hypotheses and Theoretical Support in the Proposed Model

Predictor	Hypotheses	Theoretical Support
Attitude towards online travel shopping	H1: Attitude towards online travel shopping positively influences Intentions to purchase travel online.	Theory of Reasoned Action (Ajzen & Fishbein, 1977; Fishbein & Ajzen, 1975) and Bigné et al., 2010; Lee et al., 2007; Morosan & Jeong, 2006
Communicability	H2: Communicability positively influences intentions to purchase travel online. H3: Communicability negatively influences perceived risk with online travel shopping.	Morrison et al. (2001); Kim et al. (2009); Corbitt et al. (2003)
Perceived Complexity	H4: Individual's perceived complexity of online travel shopping will be negatively related to attitude towards online travel shopping.	Innovation Diffusion Theory (Rogers, 1995) and Technology Acceptance Model (Davis, 1985)
Perceived Compatibility	H5: Individual's perceived compatibility with online travel shopping will be positively related to attitude towards online travel shopping. H6: Individual's perceived compatibility with online travel shopping will be positively related to intentions to purchase travel online.	Innovation Diffusion Theory (Rogers, 1995) and Technology Acceptance Model (Davis, 1985) and Bellman, Lohse, and Johnson (1999); Chen et al. (2002); Christou and Kassianidis (2003); Li and Buhalis (2006); Vijayasarathy (2004)

Table 3.3 - Hypotheses and Theoretical Support in the Proposed Model (Continued)

Predictor	Hypotheses	Theoretical Support
Perceived Behavioural Control	H7: A person's perceived behavioural control over purchasing travel online positively influences intentions to purchase travel online. H8: A person's perceived behavioural control over purchasing travel online negatively influences perceived complexity.	Theory of Planned Behaviour (Ajzen, 1991) and Hernandez et al. (2009)
Perceived Relative Advantage	H9: Perceived relative advantages of online travel shopping will be positively related to intentions to purchase travel online. H10: Perceived relative advantage of online travel shopping will be positively related to attitudes towards online travel shopping. H11: Perceived relative advantage of online travel shopping will be positively related to trust in online travel shopping.	Innovation Diffusion Theory (Rogers, 1995), Technology Acceptance Model (Davis, 1985) and Christou & Kassianidis (2003); Heung (2003); Jensen (2009); Kamarulzaman (2007); Kim & Kim, (2004); Kim et al. (2006); Moital, Vaughan, Edwards, & Peres (2009); Morrison et al., (2001);Wong & Law (2005)
Perceived Risk	H12: The perceived risk in online travel shopping has a negative influence on attitude towards online travel shopping. H13: The perceived risk in online travel shopping has a negative influence on intentions to purchase travel online.	Jensen (2012); Kolsaker et al. (2004); Bigné et al. (2010)
Trust	H14: Trust in online travel shopping has a positive influence on attitude towards online shopping. H15: Trust in online travel shopping has a negative influence on perceived risk in online travel shopping. H16: Trust in online travel shopping has a positive influence on intentions to purchase travel online	Bigné et al. (2010); Corbitt et al. (2003); Kamarulzaman (2007); Kim, Chung, and Lee (2011) McCole (2002);Wen (2010)
Social Media Involvement	H17: Individuals' social media involvement is positively related to intentions to purchase travel online. H18: Individuals' social media involvement is negatively related to perceived risk in online travel shopping	Jensen (2012); Susskind & Stefanone (2010); Wolfe, Hsu, & Kang (2005); Venkatraman (1989); Lin et al. (2009)

3.4. CONTROL VARIABLES

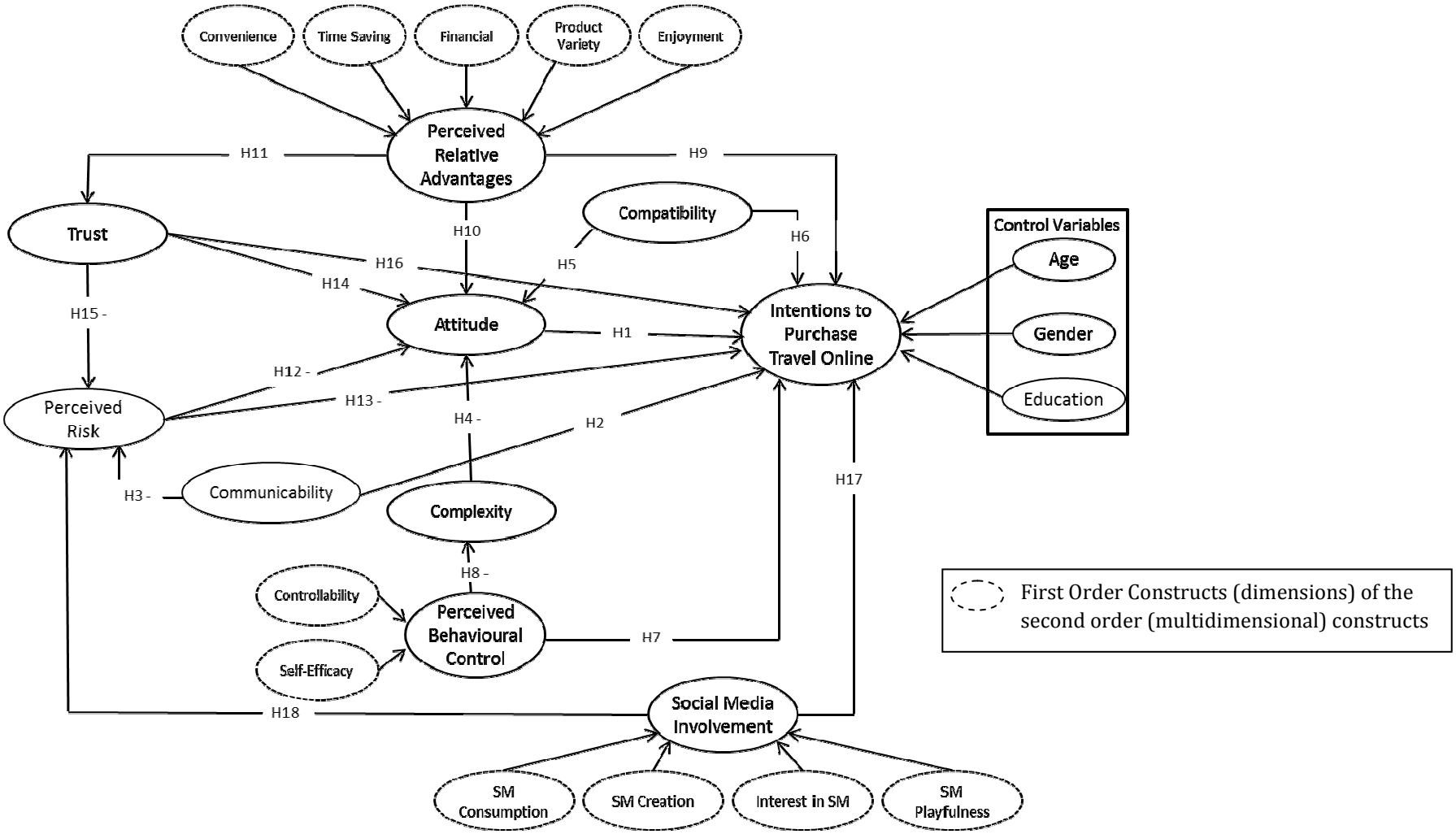
Several control variables were included in the model. Indeed, studies have found that age, gender, and education level are often related to online travel purchasing adoption and use (e.g. Garín-Muñoz & Pérez-Amaral, 2011; Kim & Kim, 2004; Law & Bai, 2008; Morrison et al., 2001; Weber & Roehl, 1999). By adding these control variables, the impact of the antecedents of intentions to purchase travel online can be assessed, regardless of these demographic variables.

The control variables were connected to the focal variable of the model, i.e., intentions to purchase travel online (Kock, 2011). This procedure has been applied by many PLS researchers (e.g. Choudhury & Karahanna, 2008; Phang et al., 2005) and is recommended by researchers in the SmartPLS forum[4].

The conceptual model, with the relationships between the constructs, is depicted in Figure 3.1.

[4] http://www.smartpls.de/forum/

Figure 3.1 – The Conceptual Model



CHAPTER 4

METHODOLOGY AND RESEARCH PROCESS

4.1. INTRODUCTION

The main purpose of this chapter is to describe the research methodology. Methodology refers to the overall approach to the research process, from the theoretical underpinning to the collection and analysis of the data (Collis & Hussey, 2003). Thus, this chapter describes the research process, explains the data collection, presents the procedures used in designing the questionnaire and provides an explanation of the statistical procedures used to analyse the data.

4.2. RESEARCH PROCESS

Research is an activity that gathers information on a phenomenon using scientific rigour (Jennings, 2010). Within the social sciences, there are various classifications of research. The most common approaches are to classify according to purpose, process, logic and outcome, shown in Table 4.1.

Table 4.1 - Classification of Main Types of Research

Basis of Classification	Type of Research	Description
Purpose of the research	Exploratory	The aim of this type of study is to look for patterns, ideas or *hypotheses*, rather than testing or confirming a hypothesis.
	Descriptive	Research which describes phenomena as they exist. It is used to identify and obtain information on the characteristics of a particular problem or issue.
	Analytical or Explanatory	The researcher goes beyond merely describing the characteristics, to analysing and explaining why or how it is happening.
	Predictive	Predictive research aims to generalize from the analysis by predicting certain phenomena on the basis of hypothesized, general relationships.
Process of the research	Quantitative	A quantitative approach involves collecting and analysing numerical data and applying statistical tests.
	Qualitative	Qualitative research is more subjective in nature and involves examining and reflecting on perceptions in order to gain an understanding of social and human activities.
Logic of the research	Deductive	A study in which a conceptual and theoretical structure is developed and then tested by empirical observation.
	Inductive	Theory is developed from the observation of empirical reality; thus general inferences are induced from particular instances, which is the reverse of the deductive method.
Outcome of the Research	Applied	Applied research applies existing theoretical knowledge to particular problems or issues.
	Basic (pure) research	It is research from which theories, frameworks and models are constructed.

Source: Own elaboration based on Collis and Hussey (2003) and Jennings (2010)

A major decision concerning all theses is the choice of the process of the research, referred to as the method, defined by Collis and Hussey (2003) as the various means by which data can be collected and/or analysed. This decision is obviously reliant on the purpose of the research and will affect the logic and outcome of the research. Primarily there are two useful and legitimate approaches to research regarding its method: qualitative and quantitative (Walle, 1997). Researchers can obviously approach their research combining the use of both, but they usually emphasize one or the other (Jennings, 2010; Kent, 2007).

The choice of a quantitative approach versus a qualitative approach must be determined by the situation in which research takes place (Walle, 1997). Quantitative research uses numerical data and, typically, has structures and predetermined research questions, conceptual frameworks and designs (Punch, 2005). Qualitative research uses non-numerical data and research questions and methods are more general at the start (Punch, 2005). Both approaches have strengths and weaknesses. Indeed, quantitative research is objectively constructed, replicable and its findings may be comparable (Kent, 2007). However, quantitative research can be simplistic (Kent, 2007) and is not very useful in generating theories (Punch, 2005). Qualitative research is more appropriate for generating ideas, as it allows for interaction between interviewer and respondents (Nykiel, 2007). However, it is more subjective, since it involves small numbers of participants in the research process and does not represent the wider population (Jennings, 2010).

Bearing in mind the strengths and weaknesses of qualitative and quantitative approaches and the main aims of the current study, a quantitative approach was chosen for several reasons. First, a qualitative approach is more adequate for developing an initial understanding of an issue, which is not the case of online travel shopping. Indeed, there are several studies addressing this issue which provide a solid theoretical ground. Second, as argued in chapter 1, knowing which factors influence online travel purchases is important to travel marketers. Considering the implications of the current research and from a practical point of view, it is most likely that travel marketers will prefer quantitative data from a large sample than qualitative data.

While qualitative approach is grounded on the interpretive social sciences paradigm, quantitative research is grounded on the post/positivist sciences paradigm (Jennings, 2010). The positivistic approach applies logical reasoning to the research so that precision and objectivity replace hunches, experience and intuition as the means of investigating research problems (Collis & Hussey, 2003).

A quantitative methodology follows a deductive approach in which a conceptual and theoretical structure is developed and then tested by empirical observation. The

deductive approach was employed in this study by first hypothesizing a theoretical model of online travel purchasing intentions and then testing the model with primary data obtained specifically for the purposes of the study. The use of primary data has the advantages of studying the appropriate population and of being relevant (Jensen, 2009).

Regarding the purpose, this thesis is predictive, because it aims to predict which factors influence intentions to purchase travel online, based on the hypothesized relationships. Finally, this research is applied, since it applies existing theoretical knowledge to a particular issue, in this case, online travel shopping.

According to Collis and Hussey (2003), research is a systematic and methodical process of investigation that increases knowledge. Being a systematic and methodical process of investigation, the research process entails organized and sequential stages. Thus, several authors (Jennings, 2010; Neuman, 2011; Veal, 2006) have suggested different numbers of stages for a research process, ranging from four (e.g. Jennings, 2010) to nine (e.g. Veal, 2006). The current research was conducted following similar procedures proposed by (Veal, 2006) and (Neuman, 2011), depicted in Figure 4.1.

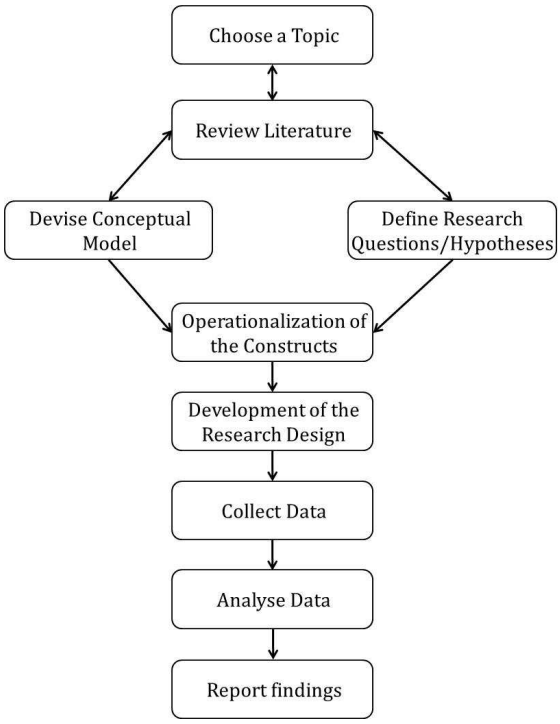


Figure 4.1 - Research Phases

Although authors have divergent opinions on the number of stages, in common is the fact that research is methodical and starts with identifying the research topic. The initial broad research topic of the present research arose from the personal interest of the researcher in tourism and ICTs. The literature review helped to specify the research questions. Therefore, selecting a topic and reviewing the literature are effectively combined (Veal, 2006).

Once the research topic was defined, the next stage was to conduct a literature review to define the research problem and to provide the foundations for the conceptual framework proposed in this study. The literature review was undertaken in two different stages. In the first stage, an initial review was carried out with the aim of examining everything that had been published on online travel shopping and to identify research gaps as suggested by Veal (2006). In this stage, a structured approach, based on Webster's and Watson's (2002) recommendations, was followed. These authors recommend starting with leading journals and conference proceedings with a reputation for quality. Therefore, the top 17 tourism and hospitality journals[5] and the ENTER conference proceedings were examined to search for studies addressing variables that were determinants of consumers' intention or actual purchases of travel online. Furthermore, to guarantee that relevant articles, from other peer reviewed journals were not excluded from this literature review, online databases for academic journals were used. Using online databases to search for suitable articles for a literature review is a procedure that has been conducted by other authors (e.g. Buhalis & Law, 2008; Ip, Law, & Lee, 2011). The search resulted in a total of 54 full-length articles considered relevant in this first stage, because they focused on determinants of online travel shopping. This first stage was essential, for it provided a comprehensive view of factors affecting online travel shopping and was crucial to identify the research gaps. More than one hundred variables were found to affect online travel purchasing and, evidently, not all were referred to in the literature review in chapter two, as some are out of the focus of the current study. Nevertheless, this review was crucial in order to firmly confirm what has been done in the context of online travel shopping and guarantee the theoretical

[5] The top Hospitality and Tourism journals were selected based on Thomson Reuters Social Sciences Citation Index impact factors and tourism and hospitality journal rankings listed in the studies of Pechlaner, Zehrer, Matzeler, and Abfalter (2004), Ryan (2005), McKercher, et al. (2006) and Murphy and Law (2008).

contributions of the present study. Appendix 1 presents the list of these studies revealing the following information: year, journal, authors, main aims and major findings. In addition, the type of survey conducted, how and where data were collected and the number of respondents are provided.

After concluding this initial revision, and as a result of the literature gaps identified, the second stage of the literature review was carried out in order to review consumer behaviour models. Additionally, the use of social media in the travel context was reviewed, since no study concerning online travel shopping has ever related it to the purchase of travel online. This second stage was crucial to define and refine the research questions and develop the conceptual framework. In the second phase, the literature review was conducted using the main online databases for academic journals, such as ScienceDirect (http//:www.sciencedirect.com) and EBSCO (http//:www.ebscohost.com), as well as Google Scholar (http//:www.scholar.google.com) to search for relevant articles. Other relevant sources were books and Internet sites.

The next stages involved the development of the conceptual model and defining the research questions and hypotheses, presented in the previous chapters. This was done simultaneously with the literature review, as this is an interactive process. Indeed, the literature review and the process of developing a conceptual framework help to focus the topic and determine what exactly should be researched (e.g. Buhalis & Law, 2008; Ip et al., 2011). It should also be noted that research questions were refined by attending several doctoral colloquiums and conferences, namely the Doctoral Colloquium at the Consumer Behaviour in Tourism Symposium in 2010, the PhD Workshop at the Enter Conference in 2011, the INVTUR International Conference in 2012 and the 6th World Conference for Graduate Research in Tourism, Hospitality and Leisure in 2012.

Following the development of the conceptual framework, the research design was conducted. This mainly involved designing the questionnaire, followed by the data collection, which will be described in the next sections. The following sections also

describe the statistical options to test the proposed model. Finally, the data was analysed and discussed.

4.3. QUESTIONNAIRE STRUCTURE AND OPERATIONALIZATION OF THE CONSTRUCTS

The hypotheses presented in the previous chapter represent relationships between the various constructs. Constructs, also referred to as latent variables, cannot be measured directly and can only be measured using observable (manifest or measurable) variables, commonly known as indicators (Gallagher, Ting, & Palmer, 2008; Hair et al., 2010). The operationalization phase involves deciding how the constructs are going to be measured (Veal, 2006).

Measurement has been the most fundamental aspect of social science for more than a century, as it allows researchers to turn abstract phenomena into quantitative variables (Durrheim & Painter, 2008). According to Durrheim and Painter (2008), this translation facilitates research in two ways:

- Firstly, numbers provide a means by which the objects being investigated can be classified and arranged in a systematic way according to the amount of certain characteristics they possess.
- Secondly, by using mathematical systems and applying them to measured attributes, researchers can do things with the phenomena under investigation that would otherwise be impossible.

Typically, quantitative research explains phenomena by collecting numerical data that are analysed using statistical procedures. One of the most popular tools to collect data in quantitative approaches in the use of a questionnaire, also employed in the current study. Thus, a questionnaire was developed after the literature review to ensure that the most adequate scales were used to measure the constructs properly. The development of the questionnaire was grounded on previous studies and its main objective was to obtain the data necessary to measure the constructs and test the proposed model.

4.3.1. QUESTIONNAIRE DESIGN

Recommendations from several authors (e.g. Bell, 2010; Jennings, 2010; Malhotra, 2008; Veal, 2006) were followed to properly design the questionnaire, since the construction of a questionnaire is essential to achieve success with data collection and analysis (Veal, 2006). For instance, ambiguous words were avoided, both positive and negative statements were used and questions were asked in a logical order.

The questionnaire was originally written in English and proof read by a native English speaking lecturer. Corrections and revisions were made according to her suggestions. The English version was used for inquiring international respondents. However, since it was predictable that a large number of respondents would be from Portugal, the survey was translated to Portuguese by a Portuguese native speaker, but proficient in the English language. The accuracy of the translation was done by the researcher and supervisor and minor adjustments were made to guarantee that both questionnaires had the same meaning. A copy of both English and Portuguese questionnaires can be found in Appendix 2 and Appendix 3, respectively.

An opening paragraph was included in the questionnaire to provide participants with an overview of the study's purpose and to ensure the confidentiality of the answers. Respondents were also given an estimation of the time required to complete the questionnaire and e-mail contact in case they had any questions or doubts. These procedures are recommended by several authors to enhance the credibility of the survey (e.g. Jennings, 2010; Malhotra, 2008). Also in this opening paragraph, respondents were told that by completing the questionnaire they had a chance to win a free night at a five star hotel or a fifty dollar Amazon voucher.

The questionnaire was divided into 4 main sections:

1) First Section

In the first section (questions 1 to 6, see Table 4.2), questions pertaining to respondents' travel-related behaviours and online purchasing experience were asked to obtain relevant background information. These opening questions were interesting and simple, to gain respondents confidence and cooperation (Malhotra, 2008).

Respondents were asked to recall their trips taken within the last 12 months to answer these questions. Before question 4, which asked respondents how they usually purchased travel, a definition of what was considered the purchase of travel was given. This definition was also important for other questions in the survey.

Table 4.2 – 1st Section of Questionnaire

Question N.º	Variables	Measurement
1	Number of Domestic trips taken in the past 12 months	Interval variable
2	Number of International trips taken in the past 12 months	Interval variable
3	Most frequent trip purposes	Selection of 12 + option of *other*
4	How travel is usually purchased	Selection of 3 + option of *other* + option of *I am not the person responsible for purchasing travel in my home.*
5	Number of travel purchases online	Interval Variable
6	Number of purchases of other products or services online in the past 12 months	Interval Variable

2) ***Second Section***

The main aim of the second section of the questionnaire was to collect the data necessary to test the hypotheses presented in the previous chapter. Thus, the questions were directed to the scale items (indicators) selected to measure each construct. Table 4.3 resumes the second section of the questionnaire, presenting the indicators used to measure the constructs, as well as the source on which they were based on and the measurement scale used.

All constructs were measured using multi-item scales, in order to increase reliability. In fact, as the number of items per construct increases, reliability tends to increase and measurement error decreases (Churchill, 1979). For this reason, no single item measures were used and most constructs have more than three items.

For all constructs (except for one of social media involvement's dimensions), Likert type and Likert scales were used to measure each indicator. Likert scales are devices to discover strength of feeling or attitude towards a given statement or series of statements (Bell, 2010). The most often used are 5-point or 7-point scales. However, there is no consensus regarding which one is best. In this study, a 5-point scale was used, since it normally provides sufficient discrimination among levels of agreement (Goodwin, 2009) and it has been one of the most used in studies addressing online shopping (e.g. Eastlick et al., 2006; Hung et al., 2011; Jensen, 2012; Kim et al., 2011; Kim et al., 2006; Njite & Parsa, 2005).

Table 4.3 – 2nd Section of Questionnaire

Question N.º	Construct	Indicators	References	Measurement
7	Intentions to Purchase Travel Online	1 - If you were to purchase travel the probability of purchasing online would be…(estimation)	Adapted from Teo and Yeong (2003) and Grewal, Monroe, and Krishnan (1998)	5 point Likert type scale 1 - Very Low 2 - Low 3 - Average 4 - High 5 - Very High
8		2 - I expect to purchase travel online in the near future (intention).	Adapted from Limayem et al. (2000) and Bigné et al. (2010)	5 point Likert scale 1 - Strongly Disagree 2 - Disagree 3 - Neither Agree, Nor Disagree 4 - Agree 5 - Strongly Agree
9	Attitude	1 - Online travel shopping is a good idea. 2 - Online travel shopping is a wise idea. 3 - I like the idea of purchasing travel online. 4 - Purchasing travel online would be pleasant. 5 - Purchasing travel online is appealing	Adapted from Ajzen and Fishbein (1980)	
9	Communicability	1 - I have heard about people booking travel online many times. 2 - Many friends have purchased travel online.	Li and Buhalis (2006) and Morrison et al. (2001)	
		3 - It is common for people to purchase travel online.	New Item	
10	Self-Efficacy (first order construct of Perceived Behavioural Control)	1 - I am proficient in using the Internet for travel shopping. 2 - I feel confident that I can use the Internet to purchase travel.	Adapted from Vijayasarathy (2004)	
10	Controllability (first order construct of Perceived Behavioural Control)	1 - All necessary resources (e.g. computer, internet access, time) for purchasing travel online are accessible to me.	Pavlou and Fygenson (2006)	
		2 - I have the necessary financial means (e.g. credit card, Paypal) to purchase travel online.	New Item	

Table 4.3. – 2nd Section of Questionnaire (Continued)

Question N.º	Construct	Indicators	References	Measurement
11	Trust	1 - The chance of having a technical failure in an online transaction is quite small. 2 - I believe most e-commerce travel web sites will perform to the outmost of the customers' benefit.	Corbitt et al. (2003)	5 point Likert scale 1 - Strongly Disagree 2 - Disagree 3 - Neither Agree, Nor Disagree 4 - Agree 5 - Strongly Agree
		3 -I believe online travel sites are trustworthy.	Kim et al. (2011)	
		4 - Internet shopping is unreliable. (R) 5 - Internet shopping cannot be trusted, there are too many uncertainties. (R)	Adapted from Lee and Turban (2001)	
	Compatibility	1 - Using the internet to purchase travel is compatible with the way I like to shop. 2 - Using the Internet to purchase travel fits with my lifestyle.	Vijayasarathy (2004)	
12	Perceived Complexibility	1 - I feel online purchasing procedures are not clear to me. 2 - I feel it is not easy to book travel online.	Li and Buhalis (2006)	
		3- I would find it easy to purchase what I wanted online. (R) 4- Purchasing online is easy. (R)	Adapted from (Davis, 1989)	
	Perceived Risk	1 - I do not feel comfortable giving out credit card information to make a transaction over the Internet.	Cho (2004)	
		2 - I feel apprehensive about purchasing online.	New Measure	
		3 - Purchasing travel online is risky. 4 - There is too much uncertainty associated with purchasing travel online. 5 - Compared with other methods of purchasing, shopping online is riskier.	Shim et al. (2001)	

(R) Reversed Items

Table 4.3 – 2nd Section of Questionnaire (Continued)

Question N.º	Construct	Indicators	References	Measurement
13	Convenience (First order construct of Perceived Relative Advantage)	1 - Purchasing travel online makes me less dependent of opening hours. 2 - Purchasing travel online has easy payment procedures.	Adapted from Verhoef and Langerak (2001)	5 point Likert scale 1 - Strongly Disagree 2 - Disagree 3 - Neither Agree, Nor Disagree 4 - Agree 5 - Strongly Agree
		3 - Purchasing travel online is more convenient than regular shopping, as I can do it anytime and anywhere.	Adapted from Limayem et al. (2000)	
14	Financial Advantages (First Order Construct of Perceived Relative Advantage)	1 - I save money by purchasing travel online.	Limayem et al. (2000)	
		2 - Online travel shopping provides more discounts than offline travel purchasing.	Kim et al. (2011)	
		3- Generally, travel websites offer tourism products at cheaper prices.	Adapted from Li and Buhalis (2006)	
	Time Saving (First Order Construct of Perceived Relative Advantage)	1-Purchasing travel online enables (will enable) me to complete shopping quickly.	Adapted from Davis (1989)	
		2 - I can save time by purchasing travel online.	Adapted from Limayem et al. (2000)	
		3- Purchasing travel online takes less time than purchasing at travel agencies.	Cho (2004)	
	Enjoyment (First Order Construct of Perceived Relative Advantage)	1 - Purchasing travel online is more exciting than purchasing offline.	Adapted from Verhoef and Langerak (2001)	
		2 - Purchasing travel online enjoys me more than purchasing offline.	Childers, Carr, Peck, and Carson (2001)	
	Product Variety (Dimension of Perceived Relative Advantage)	1 - There is a larger choice of travel products available when purchasing online. 2 - The Internet allows me to purchase travel services that are not available offline.	Jensen (2009)	
		3 - I can design a custom made trip by purchasing travel online.	NEW MESURE	

With respect to the intentions construct, Fishbein and Ajzen (1975) recommend using a procedure which places the subject along a subjective-probability dimension involving a relation between himself and some action. However, Fishbein and Ajzen did not distinguish between individuals' estimates of their future behaviour (e.g. "How likely are you to do …?") and individual's intentions to perform such behaviour (e.g. "Do you intend to do …?"), as pointed out by Sheppard et al. (1988). Intention and Estimation are different concepts, as it is often that what one intends to do and actually expects to do are different (Sheppard et al., 1988). Moreover, their meta-analysis concluded that the impact of attitude on intentions is stronger when intention measures are used but the relationship between intentions and behaviour is stronger when estimation measures are used. Therefore, the current study considers both behavioural intentions and self-predictions to predict behaviour.

As can be seen in Table 4.3, the controllability dimension of perceived behavioural control has a new measure. Controllability is related to the availability of resources and opportunities to purchase travel online. Studies concerning online shopping have typically considered as resources and opportunities aspects such as having access to a computer and Internet (e.g. Lin, 2007). Yet, previous studies have not considered another important resource that is typically necessary to purchase travel online: owning a credit card. Researchers have found that not having a credit card was one of the reasons, sometimes the most important one, for not purchasing online (Haley, 2002; Hassanein & Head, 2007; Weber & Roehl, 1999). Moreover, the Internet for booking tends to be higher in countries that have high usage of credit cards (WTTC, 2011). Therefore, since credit card ownership is an important factor that influences consumers to shop online (Sim & Koi, 2002) and credit cards and Paypal are the most common methods of payment for online purchases (Nielsen, 2008), these were considered as financial resources necessary to purchase travel online: The new measure was added to reflect this important resource necessary to purchase travel online.

Although several studies addressing online travel shopping have considered a number of risk dimensions (e.g. Kim et al., 2005; Kim et al., 2009), this study uses one overall risk construct to measure perceived risk in online shopping. Apart from

considering items of overall risk, the items also included the following types of risk: psychological, privacy and security. These dimensions represent new forms of risk associated with the Internet (Cases, 2002) that do not exist in traditional shopping (Biswas & Biswas, 2004). Physical risk and social risk were excluded since their role has been found to be insignificant in the context of online travel shopping (Bigné et al., 2010; Kim et al., 2005; Kim et al., 2009).

3) Third Section

The third section addressed social media to measure the multidimensional social media involvement construct. Many researchers (e.g. Laurent & Kapferer, 1985; Zaichkowsky, 1985) have discussed the difficulty in measuring involvement. Since it is a hypothetical construct, it cannot be measured directly (Laurent & Kapferer, 1985). Laurent and Kapferer (1985) believe in the use of an involvement profile instead of a single indicator to measure consumers' involvement level. Zaichkowsky (1985) argues that single item measures have low reliability, suggesting the use of a multiple-item measure of involvement. Therefore, a multidimensional construct was proposed to measure social media involvement, according to individuals' level of consumption of social media, social media content creation, level of interest and perceived playfulness with the use of social media, as discussed previously. Since travellers may use social media for travel related purposes at several stages of their trip, the questions regarding the consumption and creation of social media content were divided into *before travelling* and *after travelling*, mostly for exploratory reasons. The indicators, scales and sources of social media involvement's dimensions are presented in Table 4.4.

As opening paragraph was included at the beginning of this section to provide participants with an overview of what was considered social media. In the first question of this section (question 15), respondents were asked to recall their last trips and select social media websites that they had used to search for travel information. In the last question of this section (question 20) respondents were also asked to indicate if they were members of a given list of social media websites.

Table 4.4 – 3nd Section of Questionnaire

Question N.º	Construct	Indicators	References	Measurement
16	Consumption of Social Media	Before travelling… 1 - I read hotel reviews from other travellers. 2 - I searched for travel information on social media websites. 3 - I looked at activity/attractions reviews of other travellers. 4 - I read other travellers' experiences and tips.	New measures	5 point Likert type scale 1 - Never 2 - Rarely 3 - Sometimes 4 - Very Often 5 - Always
17	Creation of Social Media Content	After travelling... 1 - I write hotel reviews on social media websites. 2- I post photos on social media websites. 3- I write reviews of activities/attractions on social media websites. 4- I write reviews of the place and/or monuments I visited on social media websites.	New measures	
18	Perceived Playfulness use of Social Media	1-Using social media for travel purposes is enjoyable.	Adapted from Lee, Cheung, and Chen (2005)	5 point Likert scale 1 - Strongly Disagree 2 - Disagree 3 - Neither Agree, Nor Disagree 4 - Agree 5 - Strongly Agree
		2-Using social media websites for travel purposes is fun. 3-Using social media websites for travel purposes stimulates my curiosity.	Adapted from Moon and Kim (2001)	
		4- I consider the use of social media for travel purposes a big hassle. (R)	Adapted from Verhoef and Langerak (2001)	
19	Interest in Social Media	Social Media is…. 1 - Unexciting…Exciting 2 -Doesn't matter to me...Matters to me 3 - Boring…Interesting 4 –Useless…Useful	(McQuarrie & Munson, 1992)	Five point differential semantic scale

4) Fourth Section

The last section of the questionnaire contained questions regarding respondents' demographic characteristics, namely age, gender and education level (see Table 4.5). This data was collected not only for descriptive purposes, but also to serve as control variables that could possibly influence intentions to purchase online.

In this section, respondents were asked to leave their e-mail contact in case they wanted to enter the prize draw.

Table 4.5 – 4th Section of Questionnaire

Question N.º	Variables	Measurement
21	Gender	Male or female
22	Age	Interval Variable
23	Education	Selection of 4 levels
24	Country of residence	Selection of all countries

4.3.2. SPECIFICATION OF THE TYPE OF CONSTRUCTS

The relationship between an indicator and a construct that is unobservable is expressed as being either formative or reflective (Chin, Peterson, & Brown, 2008; Hair et al., 2010). The most commonly used are reflective, where indicators are considered to be functions of the latent construct (Hair et al., 2010; Hair, Ringle, & Sarstedt, 2011). Therefore, changes in the underlying construct cause changes in the indicators (Diamantopoulos, Riefler, & Roth, 2008; Jarvis, MacKenzie, & Podsakoff, 2003). Typical examples of appropriate applications of the reflective indicator model include constructs such as attitudes and purchase intention (Jarvis et al., 2003). Graphically, they are represented by single-arrows pointing from the latent construct outward to the indicator variables (see Appendix 4). In contrast, with a formative measurement, indicators are assumed to cause a latent construct, i.e., changes in the indicators will cause changes in the underlying construct (Chin et al., 2008; Jarvis et al., 2003).

Deciding whether the constructs are measured in a formative or reflective manner is an important issue for several reasons. First, measurement model misspecification will lead to incorrect assessments of relationships in partial least squares path

modelling[6] (Gudergan, Ringle, Wende, & Will, 2008; Jarvis et al., 2003). On the other hand, procedures used to assess the validity and reliability of reflective constructs are not appropriate for formative constructs (Diamantopoulos & Winklhofer, 2001).

Therefore, one of the first issues was to assess which types of constructs were present in the proposed model, following Jarvis et al.'s decision rules (2003). The classification of the constructs according to the type of measurement and a justification is presented in Table 4.6.

Table 4.6– Construct Specification

	Constructs	Type of Measurement	Justification
Single Dimensional Constructs	Intentions to Purchase, Attitude, Communicability , Perceived Risk, Trust, Perceived Compatibility and Perceived Complexity	Reflective	- Indicators are manifestations of the constructs; - Indicators have similar content; - Dropping an indicator would not alter the conceptual domain of the construct; - Changes in the construct do cause changes in the indicators.
First Order Constructs	**Perceived Relative Advantages Dimensions** Convenience, Time-Saving, Enjoyment of online travel shopping, Product Variety and Financial Advantages	Reflective	
	Perceived Behavioural Control Dimensions Self-efficacy and Controllability	Reflective	
	Social Media Involvement Dimensions Social Media Consumption, Creation of Social Media Content, Perceived Playfulness and Interest in Social Media	Reflective	
Second Order Constructs	Perceived Relative Advantages	Formative	- First order constructs are defining characteristics of the second level constructs; - Dropping one of the first order constructs would alter the conceptual domain of the second level construct; - Changes in the first order constructs would cause changes in the construct; - First order constructs are not interchangeable.
	Perceived Behavioural Control	Formative	
	Social Media Involvement	Formative	

[6] This is the statistical technique that will be used to test the hypotheses and will be explained in more detail in section 4.5.

As shown in Table 4.6, the second order constructs have a formative measurement, although their first order constructs have a reflective measurement. These types of models are referred to as type II models (Jarvis et al., 2003).

It should be stressed that Lee and Cadogan (2013) consider that second-order reflective constructs make no conceptual sense and that all multidimensional constructs are formative, since they contain different facets. Indeed, a multidimensional is composed of different dimensions that are not interchangeable, a characteristic that is required for reflective measurement. Under the formative model, each first order construct is a component of the second order construct, which would become incomplete if any of the components were missing.

Another important decision is determining how to operationalize the second order constructs. Basically, three approaches have been proposed: 1) the hierarchical competent model proposed by Wold (1982) and more commonly known as repeated indicator approach; 2) the two stage or sequential approach and 3) the hybrid approach[7] (Becker et al., 2012). The former was chosen for several reasons. Not only does it produce more precise parameter estimates and a more reliable higher order construct score for reflective-formative hierarchical constructs, but is also the approach most favoured by analysts when using partial least squares to model higher order constructs (Becker et al., 2012; Wilson & Henseler, 2007). In essence, this approach measures the second order factors by using the observable variables from all the first order factors (Chin, 1997; Tenenhaus, Vinzi, Chatelin, & Lauro, 2005) (See Appendix 4 for an illustration of the repeated indicator approach applied in the current study). It should be noted that this approach works best when the lower-order constructs have a similar number of indicators, otherwise the weights for the first order constructs on the second order constructs will be biased (Luo, Li, Zhang, & Shim, 2010; Ringle, Sarstedt, & Straub, 2012). This was not a problem in the current study since the lower order constructs had a similar number of indicators.

[7] For a description of these approaches see Becker et al. (2012), Hair et al. (2011) and Chin and Newsted (1999).

4.4. DATA COLLECTION

To collect the data the questionnaire was distributed online. Since the study focuses on online travel shopping, it was not necessary to address the concerns of individuals that do not have access to the Internet. Online questionnaires are an increasingly used tool for tourism research (Veal, 2006) and present many advantages that influenced the choice of this particular method:

- Data collection through the Internet is believed to be more appropriate and suitable for studies addressing online shopping (Chen, 2006);
- The data is collected much faster than other survey methods (Cook, Heath, & Thompson, 2000; Jennings, 2010);
- Web based questionnaires are easy to conduct and cost saving (Cook et al., 2000; Jennings, 2010; Kent, 2007);
- They can be completed when the respondent chooses to do so (Cook et al., 2000; Couper, 2000; Jennings, 2010);
- A significant number of respondents can be reached (Cook et al., 2000; Kent, 2007; Malhotra, 2008);
- Respondents find them to be more appealing and interesting than traditional questionnaires (Cook et al., 2000; Kim, Lee, & Hiemstra, 2004);
- Since data is captured in an electronic format, there will be time and cost savings in subsequent procedures (Gerbing & Anderson, 1988; Goodwin, 2009; Kaplowitz, Hadlock, & Levine, 2004).

To ensure comprehensiveness and test the questionnaire online, before distribution, both English and Portuguese versions were pretested among a convenience sample of colleagues, students and consumers from the general public. The respondents of the pre-test were asked to provide comments on the relevance and clarity of the questionnaire items and time taken to complete it. Based on the feedback from the participants the wording of some questions was changed to minimize ambiguity. Moreover, based on some of the participant's comments and following Ajzen's

(2002a) suggestion, the different items assessing a given construct were separated and presented in a non-systematic order, mixed together with items for the other constructs.

To maximize the confidence in the reliability of the results it is often necessary to study a relatively large number of people (Veal, 2006). The objective of this study is to examine which factors influence intentions to purchase travel online. Theoretically, the population comprises all Internet users aged 18 or more as they have already purchased travel online or exhibit a greater propensity to shop online, compared to individuals that do not use the Internet. However, since there does not exist a list of Internet users it is impossible to select our sampling elements from the population directly. Consequently, a non-probabilistic sampling procedure - convenience sampling - was used to collect data. Convenience sampling means that the sample is selected purely based on convenience and on the ease with which the researcher can access the participants. Although convenience sampling has the disadvantage of offering no guarantee of a representative and unbiased sample (Gravetter & Forzano, 2011), it is the most employed method in social and behavioural sciences (Durrheim & Painter, 2008; Gravetter & Forzano, 2011) and has been supported by many academic scholars, since it is appropriate to obtain a large number of questionnaires quickly and economically (Jennings, 2010; Wen, 2010). Furthermore, it has been used in other studies regarding the purchase of travel online (e.g. Brown, Muchira, & Gottlieb, 2005; Klein, Kohne, & Oorni, 2005; Morrison et al., 2001).

Therefore, in late July of 2012, e-mail invitations were sent to colleagues, students, personal contacts, professional list-serve groups (more than a hundred), and other email contacts collected ever since the research process began. Moreover, links to the survey were placed on Facebook, namely on the researchers' wall, but also on professional research groups such as *Researchers in Business, TRINET Tourism Research Information Network and IFITT and ENTER Conference Group.* The email invitation explained the purpose of the study and requested respondents' participation (see Appendix 5). Respondents were asked to click on the URL link provided in the email message (or in the Facebook message) which linked to the

online questionnaire. In the e-mail invitations sent, respondents were also asked to forward the e–mail to friends to fill out the questionnaire.

These contacts and list-serve groups were composed majority of Portuguese Internet users, but also Internet users from all over the world. Therefore, the questionnaire was available in Portuguese and in English. Each language had its own URL link, although it was possible to switch languages on the first page of the questionnaire.

To increase responses, the Portuguese respondents were offered a free night at a 5 star Hotel in the Portuguese city of Viseu, while the International respondents were offered an incentive in the form of a fifty dollar Amazon voucher. These incentives were drawn at random among the respondents that provided their emails.

Despite having employed a convenience sampling method, the current sample represents a strength compared to other studies in this research area, since most empirical studies on online travel shopping have used student subjects (e.g. Anckar & Walden, 2001; Brown et al., 2005; Brown et al., 2007; Cho & Agrusa, 2006; Kim, Kim, et al., 2007; Kim et al., 2005; Kim et al., 2009; Klein et al., 2005; Morosan & Jeong, 2006; Morosan & Jeong, 2008; Morrison et al., 2001; Susskind & Stefanone, 2010). Students are on average younger and better educated than general public (Bennett, 1997). Therefore, using only students as a sample strategy ignores other Internet users, of different ages, incomes and education. The convenience sampling procedure used in this research provides more useful insights as it reaches a large diversity of Internet users from all over the world.

The questionnaire was available online between July 17th and September 12th of 2012. During this period a total of 1,759 complete responses were obtained of which 1,732 were considered valid. A summary of data collection details is shown in Table 4.7.

Table 4.7 – Summary of Data Collection Details

Population	Internet users aged 18 or older
Data Collection Method	Online Questionnaire
Sampling Method	Non Probability - Convenience
Data Collection Dates	July 17th 2012 – September 12th 2012
Number of Complete Responses	1,759
Number of Valid Responses	1,732

4.5. DATA ANALYSIS PROCEDURES

The data was first analysed with the IBM SPSS Statistics version 9 (hereafter SPSS) for descriptive analyses. This was followed by Structural Equation Modelling (SEM) to validate the measures developed and to test the hypotheses. SEM is defined as "a family of statistical models that seek to explain the relationships among multiple variables" (Hair et al., 2010, p. 608) that allows the researcher to test and confirm models of complex relationships (Gallagher et al., 2008). These relationships are represented by a series of structural equations that can be modelled pictorially to provide a clearer conceptualization of the theory under study (Gallagher et al., 2008). The hypothesised model is then tested statistically in a simultaneous analysis of the entire system of variables to determine the extent to which it is consistent with the data (Byrne, 2011).

This technique has grown in academic research in a large number of academic disciplines (Gallagher et al., 2008) and is considered as one of the most important statistical developments in social sciences in recent years (Hair, Ringle, & Sarstedt, 2012). Without doubt, SEM presents several characteristics that have attracted researchers and set it apart from first generation regression tools (e.g. linear regression, analysis of variance [ANOVA] and multivariate analysis of variance [MANOVA]). In particular, research questions can be answered in a single, systematic and comprehensive analysis by modelling the relationships among multiple independent and dependent constructs (the structural model) simultaneously (Gefen, Straub, & Boudreau, 2000; Hair et al., 2010). For this reason, SEM was considered to be particularly suitable since the model proposed in this study contains multiple equations involving dependence relationships. Moreover, in the same analysis, SEM not only assesses the structural model but also evaluates the measurement model (Gefen, Rigdon, & Straub, 2011; Gefen et al., 2000). This combined analysis enables measurement errors of the observed variables to be analysed as an integral part of the model (Gefen et al., 2000), which makes the estimates provided by SEM better than those produced by linear regression (Gefen et al., 2011).

When applying SEM, researchers must consider a covariance based analysis (CB-SEM) or a variance based approach, more commonly referred to as partial least squares (PLS) (Gefen et al., 2000; Haenlein & Kaplan, 2004; Hair, Sarstedt, Ringle, & Mena, 2012), also referred to as PLS-SEM. These two distinct types of analyses have different objectives and statistical assumptions (Gefen et al., 2000). PLS is a prediction-oriented approach aimed at maximizing the explained variance of the dependent constructs, whereas the covariance based approach is confirmatory, aimed at reproducing the theoretical covariance matrix, without focusing on explained variance[8] (Fornell & Bookstein, 1982; Hair et al., 2011; Hair, Ringle, et al., 2012). Although some scholars view PLS as less rigorous, in general, one method is not superior to the other (Barclay, Higgins, & Thompson, 1995; Hair et al., 2011; Hair, Sarstedt, Ringle, et al., 2012). Several academics view them as complementary rather than competitive statistical methods (Chin & Newsted, 1999; Hair et al., 2011; Hair, Ringle, et al., 2012; Henseler, Ringle, & Sinkovics, 2009; Wetzels et al., 2009).

To analyse the data obtained for the purpose of this study, the PLS approach was chosen for several reasons. First and foremost, in contrast to CB-SEM, PLS readily incorporates both reflective and formative measures (Hair, Ringle, Hult, & Sarstedt, 2013; Hair et al., 2011; Hair, Sarstedt, Pieper, & Ringle, 2012; Peng & Lai, 2012). As discussed previously the proposed model is constituted by constructs with formative measures. The analysis of formative measures in CB-SEM is not an easy task, as it involves identification rules, which make its application rather difficult, especially in models with multidimensional constructs (Wetzels et al., 2009). This would be reason enough to have chosen PLS. However, PLS also reveals to be more suitable for other reasons. It is considered to be more appropriate when the research objective is to explore, predict and develop theory, in opposition to confirming existing relationships (Chin & Newsted, 1999; Hair et al., 2011). Although the model proposed is grounded on well-established theories, new measures and structural paths are proposed, namely the ones concerning social media involvement. Third, PLS is better suited for large and complex models (Hair et al., 2010; Hair et al., 2011). This is an

[8] For more details of the differences, advantages and disadvantages of these two methods see Hair et al. (2011), Chin and Newsted (1999) and Fornell and Bookstein (1982).

important feature considering that the proposed model has 24 constructs, of which 3 are hierarchical, 21 inner path relations and a total of 63 indicators, which can be considered a complex model compared to other studies[9]. Moreover, Chin (2010a) considers that PLS may be more suitable for complex models capturing many factors related to attitude and behaviours. Finally, it is has less restrictive assumptions about the data (Hair et al., 2011). For instance, constructs with fewer items can be used. Since three constructs in the model (Intentions to purchase travel online, Perceived Compatibility and Online Travel Shopping Controllability) only have two items, this characteristic seemed relevant. Furthermore, PLS does not impose any condition about the data distribution.

A structural equation model has two components. The first component is the measurement model, which in the context of PLS is referred to as *outer model* (Hair et al., 2011). A construct cannot be measured directly and perfectly but must be approximately measured by multiple indicators (Hair et al., 2010). Thus, the outer model assesses the contribution of each indicator in representing its associated construct and measures how well the combined set of indicators represent the construct (Hair et al., 2010). Appendix 6 offers a graphic representation of the outer model (each constructs' measures is represented by a box), together with the structural model, the second component of structural equation models, referred to as the *inner model* in the PLS context. The inner model specifies the relationships (paths) between the constructs (Hair et al., 2011; Henseler et al., 2009). The relationships between the constructs proposed in the current study are well supported on reliable and established theories (TRA, TPB, TAM and IDT) and on research undertaken by other researchers.

[9] On average, the number of constructs in path models, inner path relationships and indicators is respectively 7.5, 10.56 and 29.55 in Strategic Management research (Hair, Sarstedt, Pieper, et al., 2012), 7.9, 10.4 and 27 in Marketing research (Hair, Sarstedt, Ringle, et al., 2012) and 8.1, 11.38 and 27.42 in Management Information Systems research (Ringle et al., 2012).

Another important issue that was considered before conducting SEM was whether the sample came from a population that is relevant to the theoretical ideas being evaluated (Bentler & Chou, 1987). Since the study is concerned on examining which factors influence the purchase of travel online, the population of Internet users older than 18 was found to be consistent with the main objectives of this research.

Finally, just like other multivariate techniques, sample size is another crucial issue before using SEM, since it has a large impact on achieving statistical significance (Gallagher et al., 2008). However, in contrast to a covariance based analysis, the sample size can be considerably smaller in PLS path modeling (Hair et al., 2010; Henseler et al., 2009). For instance, Chin and Newsted (1999) suggest a minimum range from 30 to 100 cases. The most common rule consists in determining the sample according to the most complex multiple regression in the model, which consists in either the number of indicators on the most complex formative construct or the largest number of antecedents leading to a construct in the inner model (Barclay et al., 1995). Once determined which is greater, the sample size required is ten cases per predictor. In this study, the most complex regression involves the number of structural paths directed at the intentions to purchase travel online construct, which are eleven[10]. Therefore, according to this rule, the minimum sample size necessary would be 110.

However, a larger sample size was intended in this study. Indeed, according to Henseler et al. (2009) recommendations on acceptable PLS sample size can be misleading as they can lead to unacceptably low levels of statistical power. Therefore, PLS researchers should consider sample size against the model and data characteristics (Henseler, Ringle, & Sarstedt, 2012; Marcoulides & Saunders, 2006). Moreover, Jöreskog and Wold's (1992) earlier writings stated that PLS estimates will be asymptotically correct under *consistency* (large number of cases) and *consistency at large* (large numbers of indicators per latent variable) conditions. Indeed, several authors posit that PLS estimates improve and their average absolute error rates

[10] It should be noted that the structural paths of control variables are included in this number as they increase model complexity and consequently increase the sample size required (Hair, Ringle, & Sarstedt, in press).

decrease as sample sizes increase (Henseler et al., 2012; Hui & Wold, 1982; Marcoulides & Saunders, 2006). This is of no surprise, as no statistical method can compensate the fact that smaller sizes usually imply higher sampling error, especially when the population and the sample are heterogeneous in composition (Hair, Sarstedt, Pieper, et al., 2012).

CHAPTER 5

RESULTS

5.1. INTRODUCTION

This chapter analyses the data collected through the online questionnaire and presents the results. First, a descriptive analysis of the respondents' demographic profile, travel behaviour and online shopping experience is presented. This description is followed by a brief analysis of social media users' behaviour. For these two first steps, SPSS was used. Finally, the proposed model was estimated using SmartPLS 2.0[11] (Ringle, Wende, & Will, 2005) and its assessment - that consists in the evaluation of the outer model and the inner model - is carried out in Section 5.3.

5.2. DESCRIPTIVE ANALYSIS OF THE DATA

All data received from the online questionnaire were available in a downloadable spreadsheet from the survey software and was first analysed to detect missing values. Twenty seven responses had missing values for some of the indicators.

[11] For a comparison of PLS software see Temme, Kreis, and Hildebrandt's (2010) review.

The insignificant number of responses with missing values can be explained by the warning feature on the online survey application that alerted respondents when a question had not been answered. Since the total number of responses was large, responses with missing values were eliminated. This method, also known as the complete case approach, is appropriate when the extent of the missing data is small and the sample is sufficiently large enough to allow deletion of the missing data (Hair et al., 2010). Thus, a total of 1,732 responses were considered valid for further analyses (see Table 5.1).

Table 5.1 – Responses Obtained

Number of Responses	1,759
Responses with missing values	27
Valid Number of Responses	1,732

It should be noted that PLS does not require a normal distribution since it uses bootstrapping to empirically estimate standard error for its parameter estimates (Gefen et al., 2011; Henseler et al., 2012). Therefore, normality in the distribution was not checked for.

5.2.1. SOCIO-DEMOGRAPHIC CHARACTERISTICS

A demographic profile of survey participants is summarized in Table 5.2. The age group with the most significant number of responses was the age group 18-29, with 34.6% of the total of responses, while only approximately 13% are aged over 50.

In terms of gender, there is a slight skew towards a higher proportion of female participants (61.5%). The sample seems to be composed by highly educated individuals, with approximately 88% of the respondents holding at least a college degree, against only 11.6% who have only completed the 12th grade or less. Regarding the country of residence, there was a prominence of responses from European residents, specifically Portuguese residents. This was expected, given that the researcher resides in Portugal and has more available contacts from people residing in this country.

Table 5.2- Demographic Profile of Respondents

Variable	Category	N	% of Responded
Age	18-29	599	34.6%
	30-39	496	28.6%
	40-49	404	23.3%
	50-59	179	10.3%
	Over 60	54	3.1%
	TOTAL	***1,732***	***100%***
Gender	Male	667	38.5%
	Female	1,065	61.5%
	TOTAL	***1,732***	***100%***
Education Level	12th grade or less	201	11.6%
	College Degree	565	32.6%
	Master Degree	576	33.3%
	Doctoral Degree	390	22.5%
	TOTAL	***1,732***	***100%***
Continent of Residence	Asia	52	3%
	Africa	19	1.1%
	Europe	1,531	88.39%
	North America	27	1.56%
	South America	84	4.85%
	Oceania	19	1.1%
	TOTAL	***1,732***	***100%***

5.2.2. TRAVEL BEHAVIOUR AND ONLINE PURCHASING EXPERIENCE

Besides the indicators of the constructs and the demographic questions, the questionnaire also contained additional general questions that seemed pertinent, to better understand travel and online shopping behaviours. Respondents' travel behaviour is presented in Table 5.3.

Regarding the number of trips taken in the past year, the majority of the respondents took 1 to 3 domestic trips (44.8%) and 1 to 3 international trips (52.4%). While only 10% did not take a domestic trip in the past year, almost 33% did not take an International trip.

Table 5.3 - Respondents' Travel Behaviour

Variable	Category	N	% of Responded
Number of Domestic	0	172	9.9%
trips in past year	1-3	776	44.8%
	4-6	369	21.3%
	More than 7	415	24%
	TOTAL	***1,732***	***100%***
Number of International	0	563	32.5%
trips in past year	1-3	907	52.4%
	4-6	107	9.8%
	More than 7	92	5.3%
	TOTAL	***1,732***	***100%***
How travel is usually	Travel Agents	416	24%
purchased	Internet	1,073	62%
	Telephone/Fax	64	3.7%
	Not person	136	7.9%
	Other	43	2.5%
	TOTAL	***1,732***	***100%***
Purpose of Travel*	Beach	724	41.8%
	City Break	625	36.1%
	Conference	563	32.5%
	Cruise	48	2.8%
	Event	208	12%
	Health and Wellness	177	10.2%
	Professional	673	38.9%
	Religion/Pilgrimage	52	3%
	Ski	35	2%
	Study Tour	124	7.2%
	Touring multiple	109	6.3%
	Visit Friends	833	48.1%
	Other	106	6.1%

*Respondents were able to choose up to 3 purposes therefore the sum of N will not add up to 1,732 (the total number of respondents), nor will the percentages add up to 100%.

A significant number of respondents usually purchase travel online (62%), followed by travel agents (24%). A small number of respondents (2.5%) chose *Other* to answer this question and wrote that it was a combination of both travel agents and online. A Portuguese respondent specified saying that if the trip was in Europe the purchase was made online and out of Europe at a travel agent. Others mentioned that they would travel by their own means, while a few said that they would travel without booking and decide once they were there.

The main reasons why individuals travel is to visit friends (48.1%), go to the beach (41.8%) and for professional purposes (38.9%). This question also had an *Other* option, which 6.1% of the respondents chose. The reasons they pointed out included Holiday, Nature, Cultural, Mountains, Adventure and Honeymoon. Other answers given would have fitted perfectly into the predefined categories. For example, several respondents wrote "Work", which is clearly a professional purpose, a category that was available.

Table 5.4 - Respondents Online Purchasing Experience

Variable	Category	N	% of Responded
Number of Online	0	406	23.4%
Travel Purchases	1-3	434	25.1%
	4-6	254	14.7%
	7-10	112	6.5%
	More than 10	526	30.4%
	TOTAL	***1,732***	***100%***
Number of Online	0	313	18.1%
Purchases of other	1-3	603	34.8%
products or services	4-6	328	18.9%
	7-10	112	6.5%
	More than 10	376	21.7%
	TOTAL	***1,732***	***100%***

Regarding online travel purchasing experience, as shown in Table 5.4, only 23.4% of the respondents have never purchase travel online. A significant number of respondents (30.4%) have purchased travel online more than 10 times. The number of online purchases of other products and services is very similar to the patterns of online travel purchases.

5.2.3. MEASUREMENT SCALES

Table 5.5 shows the means and standard deviation of the indicators of intentions to purchase travel online, attitude towards online travel shopping and communicability. Most of the respondents expect to purchase travel online (mean [m] = 4.00; standard deviation [std] = 1.024) and think that it is a good idea (m=4.10; std=0.820). Most respondents have heard about people booking travel online (m= 4.29; std=0.717) and

know people that have done so (m=4.21; std=0.717). These results are not surprising since online travel has become a common practice.

Table 5.5– Descriptive Analysis for Intentions to Purchase, Attitude and Communicability

Construct	Indicator	Mean	Standard Deviation
INTENTIONS TO PURCHASE		3.95	1.030
	INT1 - If you were to purchase travel the probability of purchasing online would be….	3.89	1.174
	INT2 - I expect to purchase travel online in the near future.	4.00	1.024
ATTITUDE		3.96	0.781
	ATT1-Online travel shopping is a good idea.	4.10	0.820
	ATT2- I like the idea of purchasing travel online.	4.01	0.900
	ATT3 -Purchasing travel online would be pleasant.	3.89	0.917
	ATT4 - Online travel shopping is a wise idea.	3.89	0.896
	ATT5 - Purchasing travel online is appealing.	3.85	0.989
COMMUNICABILITY		4.15	0.650
	CMM1 -I have heard about people booking travel online many times.	4.29	0.717
	CMM2 -Many friends have purchased travel online.	4.21	0.761
	CMM3 -It is common for people to purchase travel online.	3.88	0.855

Table 5.6 presents the descriptive analysis for the perceived behavioural control construct measures. The items include the two dimensions of this second order construct, namely self-efficacy and controllability. The respondents seem to have a fairly high self-assessment of their capabilities of purchasing travel online (self-efficacy m= 4.15; std =0.782) and have the necessary resources, such as a computer and Internet access (m=4.51; std=0.637). These results were expected since the sample came from Internet users.

Table 5.6– Descriptive Analysis for Perceived Behavioural Controls' Dimensions

Construct	Indicator	Mean	Standard Deviation
Self-Efficacy		4.15	0.782
	SEF1-I am proficient in using the Internet for travel	4.11	0.855
	SEF2 -I feel confident that I can use the Internet to purchase travel.	4.20	0.822
Controllability		4.38	0.653
	CTR1-1-All necessary resources (e.g. computer, Internet, time) for purchasing travel online are accessible to me.	4.51	0.637
	CTR2-I have the necessary financial means (e.g. credit card, Paypal) to purchase travel online.	4.17	0.968

Regarding trust, it is noticeable that, although respondents trust online travel shopping, the level of trust is not high (see Table 5.7). In a similar vein, respondents do not perceive online travel shopping as highly risky, since all means are below 3, but they do not consider it completely safe.

Table 5.7– Descriptive Analysis for Trust and Perceived Risk

Construct	Indicator	Mean	Standard Deviation
Trust		3.55	0.659
	TRT1-The chance of having a technical failure in an online transaction is quite small.	3.29	0.922
	TRT2 -I believe most e-commerce travel web sites will perform to the outmost of the customers' benefit.	3.53	0.792
	TRT3 -I believe online travel sites are trustworthy.	3.61	0.785
	TRT4 -Internet shopping cannot be trusted, there are too many uncertainties. (R)	3.49	0.953
	TRT5 -Internet shopping is unreliable. (R)	3.71	0.889
Perceived Risk		2.70	0.828
	RSK1- Purchasing travel online is risky.	2.50	0.944
	RSK2-I do not feel comfortable giving out credit card	2.76	1.127
	RSK3-I feel apprehensive about purchasing online.	2.64	1.082
	RSK4 -Compared with other methods of purchasing, shopping online is riskier.	2.82	1.021
	RSK5 -There is too much uncertainty associated with purchasing travel online.	2.80	1.030

In average, the respondents consider that online travel shopping is moderately compatible with their lifestyle (m=3.79; std=0.994) and with the way they like to shop (m= 3.5; std=1.067). Respondents do not consider online travel shopping a complex task, since perceived complexity has a mean value of 2.09, as can be observed in Table 5.8.

Table 5.8 – Descriptive Analysis for Compatibility and Perceived Complexity

Construct	Indicators	Mean	Standard Deviation
Compatibility		3.66	0.954
	CMP1- Using the Internet to purchase travel fits with my lifestyle.	3.79	0.994
	CMP2 - Using the internet to purchase travel is compatible with the way I like to shop.	3.50	1.067
Perceived Complexity		2.09	0.639
	CXY1- I feel online purchasing procedures are not clear to me.	2.37	1.021
	CXY2- I feel it is not easy to book travel online.	2.08	0.847
	CXY3-Purchasing online is easy. (R)	1.88	0.718
	CXY4-I would find it easy to purchase what I wanted online. (R)	2.15	0.869

Table 5.9 presents the means and the standard deviations of the indicators of perceived relative advantages, divided by its five dimensions. Convenience (m=4.08; std=0.615) and time saving (m=3.98; std=0.705) seem to be the most relevant advantages of purchasing travel online, with means close to 4. On the contrary, the less important advantage seems to be enjoyment (m=3.06; std=0.829).

Table 5.9 – Descriptive Analysis for Perceived Relative Advantages' Dimensions

Construct	Indicators	Mean	Standard Deviation
CONVENIENCE		4.08	0.615
	CNV1-Purchasing travel online makes me less dependent of opening hours.	4.24	0.725
	CNV2-Purchasing travel online has easy payment procedures.	3.88	0.820
	CNV3-Purchasing travel online is more convenient than regular shopping, as I can do it anytime and anywhere.	4.10	0.754
FINANCIAL ADVANTAGES		3.79	0.721
	FAD1 - I save money by purchasing travel online.	3.91	0.839
	FAD2- Online travel shopping provides more discounts than offline travel purchasing.	3.72	0.830
	FAD3 - Generally, travel websites offer tourism products at cheaper prices.	3.74	0.796
TIME SAVING		3.98	0.705
	TSV1 -Purchasing travel online enables (will enable) me to complete shopping quickly.	4.03	0.771
	TSV2 -I can save time by purchasing travel online.	4.07	0.758
	TSV3 -Purchasing travel online takes less time than purchasing at travel agencies.	3.80	0.883
ENJOYMENT		3.06	0.829
	EJY1- Purchasing travel online is more exciting than purchasing offline.	3.06	0.879
	EJY2 - Purchasing travel online enjoys me more than purchasing offline.	3.06	0.906
PRODUCT VARIETY		3.48	0.740
	PVR1- The Internet allows me to purchase travel services that are not available offline.	3.40	0.871
	PVR2- There is a larger choice of travel products available when purchasing online	3.51	0.870
	PVR3- I can design a custom made trip by purchasing travel online.	3.55	0.928

Table 5.10 shows the means and standard deviations of the measures of social media involvements' first order constructs. Although respondents may perceive that social media is somewhat useful (m= 3.6; std=1.043), consumption levels are not very high (m= 3.09; std=1.278) and social media creation is even lower (m=1.94; std=0.993).

Table 5.10 – Descriptive Analysis for Social Media Involvement

Construct	Indicator	Mean	Standard Deviation
Social Media Consumption		3.09	1.278
	Before travelling… SMC1- I read hotel reviews from other travellers.	3.28	1.396
	SMC2 - I searched for travel information on social media websites.	2.88	1.362
	SMC3 - I looked at activity/attractions reviews of other travellers.	3.08	1.349
	SMC4 - I read other travellers' experiences and tips.	3.13	1.353
Social Media Creation		1.94	0.993
	After travelling… SMCR1- I write hotel reviews on social media websites.	1.95	1.105
	SMCR2- I post photos on social media websites.	2.07	1.244
	SMCR3- I write reviews of activities/attractions on social media websites.	1.89	1.105
	SMCR4 - I write reviews of the place and/or monuments I visited on social media websites.	1.87	1.079
Perceived Playfulness of Social Media		3.00	1.116
	PP1- Using social media for travel purposes is enjoyable.	3.04	1.213
	PP2- Using social media websites for travel purposes is fun.	2.93	1.177
	PP3 -Using social media websites for travel purposes stimulates my curiosity.	2.99	1.248
	PP4- I consider the use of social media for travel purposes a big hassle. (R)	3.03	1.281
Interest in Social Media		3.39	0.949
	Social Media is…. ISM1 Unexciting…Exciting	3.39	1.052
	ISM2 -Doesn't matter to me …Matters to me	3.19	1.098
	ISM3 - Boring…Interesting	3.37	1.074
	ISM4 –Useless…Useful	3.60	1.043

5.2.4. SOCIAL MEDIA USERS' BEHAVIOUR

The last section of the questionnaire focused on social media use. Question 15 asked respondents to recall their last trips and select the social media websites that they used for planning it. From the total of 1,732 respondents, 318 (18.46%) answered that they did not use social media websites for travel purposes. This means that 1,414 respondents (81.54%) use social media websites for travel purposes, which expresses the importance of social media in the travel domain. This section analyses the social media use behaviour of the 1,414 respondents that use social media for travel purposes.

Table 5.11 shows the social media websites most used for travel purposes and social media users' memberships.

Table 5.11– Social Media Websites used for travel purposes and Social Media Memberships

	Social Media use		Memberships	
	N	%	N	%
Booking	155	10.96%	21	1.49%
Dopplr	8	0.57%	0	0%
Facebook	532	37.62%	1092	77.23%
Flickr	61	4.31%	84	5.9%
Google +	545	38.54%	438	30.98%
Holiday Check	83	5.87%	14	0.99%
Lonely Planet	254	17.96%	37	2.62%
Pinterest	31	2.19%	62	4.38%
TravBuddy	46	3.25%	14	0.00%
Tripit	37	2.62%	15	1.06%
Tripadvisor	750	53.04%	246	17.4%
Tripsay	20	1.41%	2	0.14%
Twitter	57	4.03%	231	16.34%
Tripatini	3	0.21%	0	0%
Tripwolf	14	0.99%	5	0.35%
Virtual Tour	129	9.12%	22	1.56%
Yahoo!Travel	170	12.02%	40	2.83%
Youtube	327	23.13%	439	31.05%
None	-	-	205	14.5%
Other. Which ones?	166	11.74%	85	6.01%

Note: Since respondents were able to choose more than one website, the sum of N will not add up to 1.414 (the number of respondents that use social media for travel purposes) nor will the percentages add up to 100%.

Tripadvisor was the most popular website visited, since 53.4% of the respondents used this social media website to search for travel information. However, only 246 (17.4%) social media users are effectively members of this travel community. Other popular social media websites used to search for travel information are Google + (38.54%), Facebook (37.62%) and Youtube (23.13%). Almost 12% chose *Other*, an open question, to which some respondents answered that they used blogs, but without specifying which ones. However, most of the answers to this open question were online travel agencies (e.g. edreams, Expedia), airline websites (e.g. Ryanair, Airfrance) or price comparison websites (e.g. Trivago), which meant that the question was not understood by these respondents, since these websites are not social media

websites. This assumption can also be evidenced by other responses given such as *Google*.

A vast majority of the respondents that use social media for travel purposes are members of Facebook (77.23%) and Youtube (31.05%), which is not surprising. Another interesting figure is that 205 social media users (14.5%) are not members of any social related travel network.

Table 5.12 shows social media users online travel purchasing experience. Considering that those who use social media are considered to be more innovative (Correa, Hinsley, & Zuniga, 2010) and that innovativeness has been found to be associated to the purchase of travel online (Kamarulzaman, 2007; Li & Buhalis, 2006), it is curious to observe that a significant number of social media users (20.3%) have never purchased travel online.

Table 5.12- Social Media Users' Online Travel Purchasing Experience

Variable	Category	N	% of Responded
Number of Online Travel Purchases	0	287	20.3%
	1-3	363	25.7%
	4-6	212	15%
	7-10	93	6.6%
	More than 10	459	32.45%
	TOTAL	***1414***	***100%***

As Parra-López et al. (2012) point out, social media plays an important role in the three stages of the travel purchasing process: before travelling, while travelling and after travelling. Before purchasing travel and travelling, travellers use social media to look for information, form expectations and weight alternatives. In this stage they are mostly consumers of social media. It is only during and after the trip that travellers share their experiences on Social Media websites, producing social media content. Table 5.13 and Table 5.14 exhibit social media users' behaviour before and after travelling.

Table 5.13- Social Media Use Before Travelling

	Never	Rarely	Sometimes	Very Often	Always
I read hotel reviews from other travellers.	32 (2.3%)	105 (7.4%)	374 (26.4%)	528 (37.3%)	375 (26.5%)
I searched for travel information on social media websites.	118 (8.3%)	217 (15.3%)	415 (29.3%)	455 (32.2%)	209 (14.8%)
I looked at activity/attractions reviews of other travellers.	55 (3.9%)	154 (10.9%)	424 (30%)	530 (37.5%)	252 (17.8%)
I read other travellers' experiences and tips.	47 (3.3%)	136 (9.6%)	422 (29.8%)	539 (38.1%)	270 (19.1%)

Table 5.14- Social Media Use After Travelling

	Never	Rarely	Sometimes	Very Often	Always
I write hotel reviews on social media websites.	522 (36.9%)	370 (26.2%)	339 (24%)	141 (10%)	42 (3%)
I post photos on social media websites.	533 (37.7%)	277 (19.6%)	307 (21.7%)	229 (16.2%)	68 (4.8%)
I write reviews of activities/attractions on social media websites.	597 (42.2%)	329 (23.3%)	296 (20.9%)	160 (11.3%)	32 (2.3%)
I write reviews of the place and/or monuments I visited on social media websites.	588 (41.6%)	347 (24.5%)	304 (21.5%)	148 (10.5%)	27 (1.9%)

By observing these tables, it is clear that social media is predominantly used before travelling and that most social media users are consumers rather than producers. It is interesting to note how the numbers seem to invert. Indeed, about 60% often or always read hotel reviews and other travellers' experiences and tips, while around the same percentage have never written reviews of hotels, attractions and monuments or posted photos. After travelling, one of the most popular activities is posting photos on social media websites.

The results given in Table 5.15 indicate that social media users consider that using social media for travel purposes can be fun and enjoyable.

Table 5.15- Perceived Playfulness of Social Media

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
Using social media for travel purposes is enjoyable.	40 (2.8%)	81 (5.7%)	538 (38%)	654 (46.3%)	101 (7.1%)
Using social media websites for travel purposes is fun.	45 (3.2%)	111 (7.9%)	630 (44.6%)	549 (38.8%)	79 (5.6%)
Using social media websites for travel purposes stimulates my curiosity.	67 (4.7%)	114 (8.1%)	473 (33.5%)	660 (46.7%)	100 (7.1%)
I consider the use of social media a big hassle.	174 (12.3%)	546 (38.6%)	487 (34.4%)	160 (11.3%)	47 (3.3%)

Finally, most social media users find the use of social media interesting, as shown in Table 5.16.

Table 5.16- Interest in Social Media

	1	2	3	4	5	
Unexciting	63 (4.5%)	150 (10.6%)	427 (30.2%)	561 (39.7%)	213 (15.1%)	Exciting
Doesn't matter to me	99 (7%)	165 (11.7%)	492 (34.8%)	503 (35.6%)	155 (11%)	Matters to me
Boring	76 (5.4%)	156 (11%)	404 (28.6%)	556 (39.3%)	222 (15.7%)	Interesting
Useless	50 (3.5%)	103 (7.3%)	336 (23.8%)	625 (44.2%)	300 (21.2%)	Useful

5.3. MODEL ASSESSMENT

The parameters of the outer and inner model were estimated using SmartPLS 2.0 (Ringle et al., 2005) using the path weighting scheme[12]. Several PLS researchers (e.g. Henseler et al., 2012; Vinzi et al., 2010) recommend the use of this estimation scheme, since it is the only one that explicitly considers the direction of relationships as specified in the predictive path model and can be applied to models with second order constructs.

Since PLS does not require a multivariate normal distribution, traditional parametric techniques for significance testing are not appropriate and therefore PLS uses resampling procedures for statistical inferences (Henseler et al., 2012; Peng & Lai, 2012). Conventionally, the bootstrap resampling method is used for estimating the precision of the PLS estimates (Chin, 2010b). This approach creates N samples (obtained by sampling with replacement from the original data set) in order to obtain N estimates for each parameter in the PLS model (Chin, 1998b). The number of bootstrap samples recommended varies in the literature. For instance, Chin (1998b) suggests 500 samples, while Hair et al. (2011) argues that the minimum number of bootstrap samples is 5,000. A larger number of bootstrap samples has the advantage of reducing the effect of random sampling errors that may occur with the bootstrapping procedure (Peng & Lai, 2012). In this study, a bootstrapping resampling procedure was carried out to estimate the significance of paths in the structural model and the significance of the loadings in the outer model. The parameter settings followed Hair et al. (2011) and Henseler et al. (2009) recommendations and are presented in Table 5.17.

Table 5.17– Parameter settings for bootstrapping

Sign Change Option	Individual Sign Changes
Number of Bootstrapping samples	5,000
Number of bootstrap cases	1,732 (equal to the number of valid observations)

[12] The other available schemes in SmartPLS are Centroid and Factorial (see Vinzi, Trinchera, and Amato (2010) for a description).

The evaluation of a research model using PLS analysis consists of two distinct steps. The first step includes the assessment of the measurement (outer) model and deals with evaluating the characteristics of the constructs and measurement items that represent them. The second step involves the assessment of the structural (inner) model and the evaluation of the relationships between the constructs as specified by the research model. Figure 5.1 depicts this two-step process.

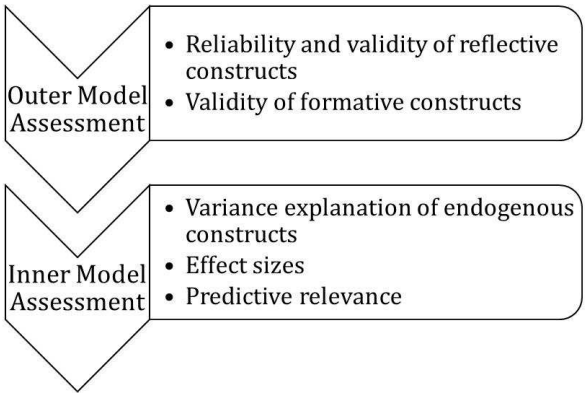


Figure 5.1 – PLS Path Model Assessment
Source: Henseler et al. (2009)

It should be noted that PLS path modelling does not provide any global goodness-of-fit criterion, as CB-SEM does, which implies a lack of measures for overall model fit (Gotz, Liehr-Gobbers, & Krafft, 2010; Hair, Sarstedt, Ringle, et al., 2012; Henseler et al., 2012; Henseler et al., 2009; Vinzi et al., 2010). Tenenhaus, Amato, and Esposito Vinzi (2004) did propose a global criterion for goodness-of-fit (GoF), but it does not represent a true global fit measure (Hair, Sarstedt, Ringle, et al., 2012). On the other hand, the GoF is best applicable on models with reflective measures (Chin, 2010b; Hair, Sarstedt, Ringle, et al., 2012; Henseler et al., 2012; Henseler & Sarstedt, in press). Hence, this measure was not calculated in the current study since there are three formative constructs in the proposed model.

5.3.1. OUTER MODEL ASSESSMENT

The first part in evaluating a model is to present the outer model results to examine the reliability and validity of the measures used to represent each construct (Chin, 2010b). To evaluate how well constructs are measured by their indicator variables,

researchers must distinguish between reflective constructs and formative constructs (Hair, Sarstedt, Ringle, et al., 2012), since procedures used to assess the validity and reliability of reflective constructs are not appropriate for formative constructs (Diamantopoulos & Winklhofer, 2001). Since the model has both reflective and formative constructs, the outer model assessment is divided into two sections, distinguishing these two types of constructs.

5.3.1.1. REFLECTIVE CONSTRUCTS

Assessment of reflective constructs involves determining indicator reliability, internal consistency reliability, convergent validity and discriminant validity, as described by Hair et al. (2011), Hair, Sarstedt, Ringle, et al. (2012) and Henseler et al. (2009). Table 5.18 resumes the appropriate measures sustained by these researchers for assessing reflective outer models and that are commonly used.

Table 5.18– Criterion for Assessing Reflective Models

Validity	Criterion	Description
Internal Consistency Reliability	Cronbach's alpha	A high alpha value assumes that the scores of all items within a construct have the same range and meaning (Cronbach, 1951). It should be higher than 0.7, although in exploratory studies 0.6 is acceptable (Hair et al., 2010).
	Composite Reliability	Quantifies how well a construct is measured by its assigned indicators (Gotz et al., 2010). Composite Reliability should be above 0.7 (Bagozzi & Yi, 1988; Hair et al., 2011; Nunnally, 1978). In exploratory research 0.60 to 0.70 is considered acceptable (Hair et al., 2011).
Indicator Reliability	Indicator Loadings	The indicator reliability specifies which part of an indicator's variance can be explained by the underlying latent variable (Gotz et al., 2010). Indicator loadings should be at least 0.60 and ideally higher than 0.7 (Chin, 1998a; Henseler et al., 2009).
Convergent Validity	Average Variance Extracted (AVE)	Measures the extent to which the average variance of the indicators is explained by the construct and should be above 0.5 (Bagozzi & Yi, 1988; Fornell & Larcker, 1981).
Discriminant Validity	Fornell-Larcker criterion	The AVE of each construct should be higher than the squared correlations with all other constructs (Fornell & Larcker, 1981).
	Cross Loadings	The loading of each indicator is expected to be greater than all of its cross loadings (Chin, 1998b).

Any research based on measurement must be concerned with the reliability of measurement (Cronbach, 1951). Reliability is concerned with evaluating the degree to which a construct's indicators are consistent in their measurements and if the indicators are measuring the same thing (Hair et al., 2010). Table 5.19 reports the results of testing the reliability of the measure scales.

Table 5.19– Reliability Measures

Construct	Indicators	Indicator Loadings	t-Statistic	Composite reliability	Cronbach's alfa
Intentions to Purchase Travel Online	INT1 - If you were to purchase travel the probability of purchasing online would be…	0.94	278.60***	0.94	0.87
	INT2 - I expect to purchase travel online in the near future	0.94	199.97***		
Attitude	ATT1-Online travel shopping is a good idea.	0.90	143.17***	0.94	0.91
	ATT2- I like the idea of purchasing travel online.	0.94	243.34***		
	ATT3 -Purchasing travel online would be pleasant.	0.91	142.33***		
	ATT4 - Online travel shopping is a wise idea.	0.90	102.24***		
	ATT5 - Purchasing travel online is appealing.	0.66	27.90***		
Communicability	CMM1 -I have heard about people booking travel online many times.	0.85	60,06***	0.88	0.79
	CMM2 -Many friends have purchased travel online.	0.90	131.00***		
	CMM3 -It is common for people to purchase travel online.	0.77	48.12***		
Perceived Complexity	CXY1- I feel online purchasing procedures are not clear to me.	0.69	30.56***	0.84	0.75
	CXY2- I feel it is not easy to book travel online.	0.79	51.66***		
	CXY3-Purchasing online is easy. (R)	0.83	80.35***		
	CXY4-I would find it easy to purchase what I wanted online. (R)	0.70	37.98***		
Compatibility	CMP1-Using the Internet to purchase travel fits with my lifestyle.	0.94	321.47***	0.93	0.84
	CMP2-Using the internet to purchase travel is compatible with the way I like to shop.	0.92	155.73***		
Self-Efficacy	SEF1-I am proficient in using the Internet for travel shopping.	0.93	174.95***	0.93	0.85
	SEF2 -I feel confident that I can use the Internet to purchase travel.	0.94	199.64***		
Controllability	CTR1-All necessary resources (e.g. computer, internet access, time) for purchasing travel online are accessible to me.	0.87	140.99***	0.84	0.63
	CTR2-I have the necessary financial means (e.g. credit card, Paypal) to purchase travel online	0.83	72.22***		

***Significant at the 0.001 level based on 5000 bootstrap samples

Table 5.19 - Reliability Measures (Continued)

Construct	Indicators	Indicator Loadings	t-Statistic	Composite reliability	Cronbach's alfa
Convenience	CNV1-Purchasing travel online makes me less dependent of opening hours.	0.79	61.08***	0.85	0.73
	CNV2-Purchasing travel online has easy payment procedures.	0.79	64.80***		
	CNV3-Purchasing travel online is more convenient than regular shopping, as I can do it anytime and anywhere.	0.84	76.99***		
Financial Advantages	FAD1 - I save money by purchasing travel online.	0.89	160.01***	0.91	0.85
	FAD2- Online travel shopping provides more discounts than offline travel purchasing.	0.90	142.68***		
	FAD3 - Generally, travel websites offer tourism products at cheaper prices.	0.84	76.69***		
Time Saving	TSV1 -Purchasing travel online enables (will enable) me to complete shopping quickly.	0.91	155.53***	0.91	0.86
	TSV2 -I can save time by purchasing travel online.	0.92	163.84***		
	TSV3 -Purchasing travel online takes less time than purchasing at travel agencies.	0.82	68.63***		
Enjoyment	EJY1- Purchasing travel online is more exciting than purchasing offline.	0.92	151.34***	0.93	0.84
	EJY2 - Purchasing travel online enjoys me more than purchasing offline.	0.94	254.61***		
Product Variety	PVR1- The Internet allows me to purchase travel services that are not available offline.	0.81	62.69***	0.87	0.78
	PVR2- There is a larger choice of travel products available when purchasing online	0.86	95.27***		
	PVR3- I can design a custom made trip by purchasing travel online.	0.83	99.46***		
Perceived Risk	RSK1- Purchasing travel online is risky.	0.83	89.39***	0.90	0.86
	RSK2-I do not feel comfortable giving out credit card information to make a transaction over the Internet.	0.80	74.45***		
	RSK3-I feel apprehensive about purchasing online.	0.80	61.57***		
	RSK4 -Compared with other methods of purchasing, shopping online is riskier.	0.75	50.87***		
	RSK5 -There is too much uncertainty associated with purchasing travel online.	0.81	71.55***		

***Significant at the 0.001 level based on 5000 bootstrap samples

Table 5.19 - Reliability Measures (Continued)

Construct	Indicators	Indicator Loadings	t-Statistic	Composite reliability	Cronbach's alfa
Trust	TRT1-The chance of having a technical failure in an online transaction is quite small.	0.66	33.91***	0.87	0.81
	TRT2 -I believe most e-commerce travel web sites will perform to the outmost of the customers' benefit.	0.65	33.03***		
	TRT3 -I believe online travel sites are trustworthy.	0.82	89.01***		
	TRT4 -Internet shopping cannot be trusted, there are too many uncertainties. (R)	0.83	75.92***		
	TRT5 -Internet shopping is unreliable. (R)	0.81	66.40***		
Social Media Consumption	Before travelling… SMC1- I read hotel reviews from other travellers.	0.93	188.41***	0.97	0.95
	SMC2 - I searched for travel information on social media websites.	0.89	128.89***		
	SMC3 - I looked at activity/attractions reviews of other travellers.	0.96	428.17***		
	SMC4 - I read other travellers' experiences and tips.	0.97	418.59***		
Social Media Creation	After travelling... SMCR1- I write hotel reviews on social media websites.	0.79	63.07***	0.93	0.90
	SMCR2- I post photos on social media websites.	0.86	100.55***		
	SMCR3- I write reviews of activities/attractions on social media websites.	0.94	239.87***		
	SMCR4 - I write reviews of the place and/or monuments I visited on social media websites.	0.92	178.53***		
Perceived Playfulness of Social Media	PP1- Using social media for travel purposes is enjoyable.	0.95	319.74***	0.95	0.93
	PP2- Using social media websites for travel purposes is fun.	0.95	271.89***		
	PP3 -Using social media websites for travel purposes stimulates my curiosity.	0.93	222.58***		
	PP4- I consider the use of social media for travel purposes a big hassle. (R)	0.80	55.47***		
Interest in Social Media	Social Media is…. ISM1-Unexciting…Exciting	0.89	120.47***	0.94	0.91
	ISM2 -Doesn't matter to me…Matters to me	0.89	146.53***		
	ISM3 - Boring…Interesting	0.91	145.44***		
	ISM4 –Useless…Useful	0.87	108.10***		

***Significant at the 0.001 level based on 5000 bootstrap samples

The data indicates that the measures are robust in terms of their reliability, since:

- All but four indicator loadings are higher than 0.7, indicating that each measure is accounting for 50% or more of the variance of the underlying construct (Chin, 1998a; Henseler et al., 2009). The exceptions were the fifth item of Attitude, two items of Trust items and one item of Perceived Complexity, which loadings varied between 0.65 and 0.69, under the ideally 0.7, but above the 0.6 cutoff. Moreover, all indicator loadings are significant at the 0.001 level, as shown by the t-values obtained through bootstrapping.

- All Cronbach's alpha are higher than 0.7, except for Controllability with 0.628, but still above the acceptable threshold of 0.6, demonstrating that each constructs' indicators have the same meaning. Furthermore, the composite reliabilities, that many researchers consider more suitable for PLS-SEM than Cronbach's alpha (e.g. Garson, 2012; Hair et al., 2011; Henseler et al., 2009), range from 0.84 to 0.97, which exceed the recommended threshold value of 0.70 (Bagozzi & Yi, 1988; Nunnally, 1978).

It should be noted that a construct with high reliability does not guarantee that it is representing what it is supposed to represent (Hair et al., 2010). Therefore it is also necessary to assess construct validity, defined as the extent to which a set of indicators actually represents the construct they were intended to measure (Hair et al., 2010). Construct validity is usually assessed by both convergent validity, which detects if the indicators for a construct are more correlated with one another than with indicators of another construct, and discriminant validity, which determines if a construct is truly distinct from other constructs both in terms of how much it correlates with other constructs and how distinctly indicators represent only this single construct (Hair et al., 2010; Petter et al., 2007).

To assess convergent validity, Fornell and Larcker (1981) suggest using the average variance extracted (AVE), while for discriminant validity the two measures that are typically used are the Fornell-Larcker criterion and the cross loadings (Henseler et al., 2009).

To evaluate convergent validity, each construct's AVE was calculated (see Table 5.20). The results support convergent validity, since they all exceed 0.50, ranging from 0.57 to 0.89.

Table 5.20–Average Variance Extracted

Construct	Average Variance Extracted (AVE)
Intentions to Purchase Travel Online	0.89
Attitude	0.75
Communicability	0.71
Self-Efficacy	0.87
Controllability	0.73
Trust	0.57
Compatibility	0.86
Perceived Complexity	0.57
Perceived Risk	0.64
Convenience	0.65
Financial Advantages	0.77
Time Saving	0.78
Enjoyment	0.86
Product Variety	0.69
Social Media Consumption	0.88
Social Media Creation	0.77
Perceived Playfulness of Social Media	0.82
Interest in Social Media	0.79

To assess discriminant validity Fornell-Larcker's guidelines were followed. This test assesses if a construct is more strongly related to its own measures than with any other construct by examining the overlap in variance by comparing the AVE of each construct with the squared correlations among constructs (Chin, 2010b). Table 5.21 shows the correlations between constructs, where the diagonal elements are the square roots of the AVEs. As observed, the square root of each construct's AVE is larger than its correlations with any other construct. Therefore, each construct shares more variance with its own block of indicators than with another latent variable representing a different block of indicators (Henseler et al., 2009), supporting the adequate discriminant validity of the scales.

Table 5.21–Discriminant Validity of the Constructs – Correlations between Constructs

Constructs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 - Attitude	**0.87**																	
2 - Communicability	0.49	**0.84**																
3 - Compatibility	0.74	0.33	**0.93**															
4 - Complexity	-0.50	-0.34	-0.52	**0.76**														
5 - Controllability	0.43	0.34	0.44	-0.54	**0.85**													
6 - Convenience	0.58	0.39	0.59	-0.55	0.50	**0.80**												
7 - Enjoyment	0.42	0.18	0.44	-0.24	0.14	0.36	**0.93**											
8 - Financial Advantage	0.51	0.29	0.47	-0.37	0.29	0.58	0.38	**0.88**										
9 - Purchase Intention	0.78	0.39	0.70	-0.46	0.43	0.51	0.33	0.44	**0.94**									
10 - Interest in SM	0.15	0.11	0.14	-0.11	0.08	0.10	0.15	0.12	0.10	**0.89**								
11 - Perceived Playfulness	0.17	0.10	0.21	-0.14	0.12	0.15	0.18	0.15	0.16	0.53	**0.91**							
12 - Perceived Risk	-0.52	-0.27	-0.58	0.56	-0.36	-0.46	-0.28	-0.34	-0.53	-0.09	-0.09	**0.80**						
13 - Product Variety	0.44	0.24	0.45	-0.27	0.20	0.45	0.60	0.53	0.39	0.13	0.18	-0.28	**0.83**					
14- Social Media Consumption	0.20	0.10	0.26	-0.17	0.18	0.17	0.19	0.18	0.20	0.38	0.76	-0.12	0.19	**0.94**				
15 - Self Efficacy	0.53	0.32	0.57	-0.59	0.58	0.49	0.24	0.31	0.53	0.13	0.15	-0.49	0.24	0.21	**0.93**			
16 - Social Media Creation	0.13	0.07	0.17	-0.09	0.06	0.08	0.18	0.11	0.15	0.43	0.61	-0.08	0.17	0.53	0.14	**0.88**		
17 - Time Saving	0.51	0.34	0.46	-0.43	0.37	0.63	0.39	0.52	0.41	0.14	0.17	-0.34	0.46	0.16	0.35	0.12	**0.88**	
18 - Trust	0.59	0.32	0.63	-0.55	0.38	0.52	0.35	0.41	0.53	0.09	0.13	-0.73	0.35	0.13	0.49	0.11	0.42	**0.76**

Discriminant validity was further assessed by extracting the factor and cross loadings of all indicators to their respective constructs. Not only should each indicator be strongly related to the construct it attempts to reflect, but should also not have a stronger connection with another construct (Chin, 2010b). The results, presented in Table 5.22, indicate that all indicators loaded on their respective construct more highly than on any other, confirming that the constructs are distinct.

Table 5.22– Factor Loadings (bolded) and cross loadings

	ATT	COMM	COMP	COMPX	CONTRO	CONV	ENJOY	Financial Advantage	Interest in SM	PP with SM	Perceived Risk	Product Variety	Purchase Intentions	SM Consumption	Self Efficacy	SM Creation	Time Saving	Trust
ATT1	**0.90**	0.46	0.68	-0.46	0.42	0.55	0.34	0.46	0.10	0.14	-0.49	0.40	0.78	0.18	0.52	0.10	0.46	0.54
ATT2	**0.94**	0.44	0.72	-0.46	0.41	0.54	0.39	0.46	0.13	0.16	-0.49	0.42	0.77	0.20	0.52	0.14	0.45	0.55
ATT3	**0.91**	0.40	0.67	-0.44	0.35	0.51	0.41	0.45	0.17	0.18	-0.45	0.40	0.67	0.21	0.44	0.15	0.47	0.51
ATT4	**0.90**	0.44	0.66	-0.46	0.38	0.54	0.38	0.46	0.12	0.13	-0.49	0.40	0.69	0.15	0.48	0.12	0.46	0.55
ATT5	**0.66**	0.39	0.43	-0.31	0.26	0.37	0.30	0.36	0.15	0.11	-0.29	0.30	0.41	0.11	0.29	0.04	0.37	0.36
CMM1	0.41	**0.85**	0.27	-0.29	0.31	0.33	0.13	0.23	0.07	0.07	-0.21	0.18	0.32	0.07	0.28	0.04	0.29	0.26
CMM2	0.44	**0.90**	0.30	-0.30	0.32	0.34	0.15	0.26	0.09	0.08	-0.25	0.20	0.36	0.09	0.29	0.06	0.30	0.29
CMM3	0.38	**0.77**	0.27	-0.26	0.23	0.31	0.18	0.25	0.11	0.09	-0.21	0.23	0.30	0.08	0.24	0.08	0.25	0.26
CMP1	0.74	0.36	**0.94**	-0.51	0.44	0.58	0.41	0.46	0.13	0.19	-0.55	0.43	0.71	0.24	0.56	0.15	0.45	0.60
CMP2	0.63	0.24	**0.91**	-0.46	0.37	0.52	0.41	0.40	0.13	0.20	-0.53	0.39	0.58	0.25	0.49	0.17	0.40	0.57
CXY1	-0.29	-0.19	-0.34	**0.69**	-0.33	-0.32	-0.13	-0.23	-0.06	-0.06	0.45	-0.15	-0.30	-0.08	-0.40	-0.02	-0.23	-0.36
CXY2	-0.39	-0.25	-0.39	**0.79**	-0.38	-0.39	-0.15	-0.27	-0.06	-0.09	0.54	-0.16	-0.38	-0.10	-0.43	-0.02	-0.29	-0.47
CXY3	-0.48	-0.33	-0.48	**0.83**	-0.51	-0.52	-0.22	-0.36	-0.10	-0.13	0.41	-0.26	-0.44	-0.17	-0.54	-0.10	-0.43	-0.47
CXY4	-0.30	-0.23	-0.34	**0.70**	-0.37	-0.38	-0.22	-0.23	-0.13	-0.13	0.31	-0.23	-0.23	-0.16	-0.41	-0.13	-0.31	-0.36
CTR1	0.37	0.32	0.35	-0.46	**0.87**	0.43	0.12	0.26	0.13	0.10	-0.29	0.18	0.34	0.13	0.56	0.05	0.35	0.32
CTR2	0.36	0.25	0.41	-0.45	**0.83**	0.43	0.11	0.25	0.00	0.10	-0.33	0.17	0.40	0.18	0.43	0.04	0.28	0.33
CNV1	0.43	0.29	0.42	-0.39	0.39	**0.79**	0.22	0.38	0.07	0.12	-0.28	0.30	0.38	0.13	0.37	0.04	0.47	0.35
CNV2	0.47	0.32	0.49	-0.50	0.43	**0.79**	0.32	0.52	0.07	0.12	-0.42	0.38	0.40	0.14	0.39	0.07	0.49	0.47
CNV3	0.51	0.33	0.52	-0.42	0.39	**0.84**	0.33	0.48	0.10	0.13	-0.39	0.41	0.45	0.14	0.42	0.07	0.54	0.43
EJY1	0.36	0.15	0.37	-0.19	0.10	0.30	**0.92**	0.34	0.15	0.16	-0.23	0.52	0.27	0.16	0.20	0.17	0.35	0.31
EJY2	0.42	0.18	0.44	-0.25	0.15	0.37	**0.94**	0.37	0.14	0.18	-0.28	0.59	0.34	0.18	0.24	0.17	0.38	0.35
FAD1	0.50	0.28	0.47	-0.37	0.31	0.59	0.35	**0.89**	0.07	0.12	-0.34	0.47	0.45	0.16	0.32	0.09	0.49	0.39
FAD2	0.44	0.25	0.41	-0.32	0.25	0.50	0.34	**0.90**	0.11	0.12	-0.28	0.48	0.39	0.15	0.27	0.10	0.44	0.35
FAD3	0.40	0.23	0.36	-0.28	0.20	0.43	0.32	**0.84**	0.13	0.16	-0.26	0.45	0.32	0.16	0.22	0.11	0.44	0.33
ISM1	0.11	0.10	0.09	-0.07	0.04	0.07	0.13	0.11	**0.89**	0.47	-0.04	0.10	0.04	0.33	0.09	0.39	0.12	0.05
ISM2	0.15	0.08	0.14	-0.09	0.07	0.08	0.17	0.11	**0.89**	0.49	-0.08	0.13	0.11	0.36	0.12	0.43	0.12	0.09
ISM3	0.14	0.09	0.13	-0.11	0.07	0.09	0.14	0.10	**0.91**	0.48	-0.10	0.12	0.09	0.33	0.11	0.38	0.12	0.10
ISM4	0.13	0.11	0.13	-0.14	0.10	0.12	0.10	0.10	**0.87**	0.43	-0.09	0.10	0.10	0.34	0.13	0.33	0.12	0.10
PP1	0.17	0.10	0.20	-0.13	0.13	0.15	0.18	0.15	0.51	**0.95**	-0.09	0.17	0.15	0.74	0.14	0.60	0.17	0.12
PP2	0.15	0.09	0.20	-0.11	0.09	0.14	0.20	0.14	0.52	**0.95**	-0.07	0.18	0.14	0.71	0.12	0.60	0.16	0.11
PP3	0.16	0.11	0.20	-0.12	0.11	0.16	0.19	0.16	0.52	**0.93**	-0.06	0.19	0.15	0.71	0.15	0.56	0.16	0.11
PP4	0.13	0.05	0.17	-0.16	0.12	0.11	0.08	0.09	0.35	**0.80**	-0.12	0.09	0.13	0.60	0.14	0.42	0.12	0.15
RSK1	-0.50	-0.30	-0.50	0.53	-0.31	-0.42	-0.24	-0.34	-0.08	-0.09	**0.83**	-0.25	-0.48	-0.09	-0.42	-0.05	-0.33	-0.69
RSK2	-0.41	-0.20	-0.49	0.46	-0.33	-0.37	-0.21	-0.24	-0.12	-0.11	**0.80**	-0.20	-0.44	-0.14	-0.44	-0.10	-0.24	-0.56
RSK3	-0.39	-0.17	-0.49	0.44	-0.28	-0.36	-0.23	-0.27	-0.09	-0.09	**0.80**	-0.21	-0.40	-0.12	-0.42	-0.07	-0.26	-0.57
RSK4	-0.35	-0.17	-0.36	0.34	-0.22	-0.28	-0.21	-0.22	-0.06	-0.05	**0.75**	-0.20	-0.36	-0.07	-0.29	-0.06	-0.22	-0.50
RSK5	-0.41	-0.22	-0.45	0.45	-0.28	-0.37	-0.22	-0.25	-0.01	-0.04	**0.81**	-0.24	-0.43	-0.04	-0.36	-0.04	-0.27	-0.60
PVR1	0.29	0.15	0.28	-0.14	0.10	0.30	0.48	0.39	0.09	0.14	-0.15	**0.81**	0.24	0.13	0.14	0.11	0.33	0.22
PVR2	0.33	0.21	0.34	-0.21	0.17	0.37	0.47	0.44	0.10	0.15	-0.20	**0.86**	0.29	0.15	0.19	0.12	0.38	0.27
PVR3	0.47	0.23	0.47	-0.31	0.23	0.45	0.55	0.50	0.13	0.16	-0.32	**0.83**	0.43	0.18	0.26	0.17	0.43	0.37
INT1	0.75	0.38	0.69	-0.47	0.43	0.51	0.32	0.43	0.09	0.13	-0.55	0.38	**0.94**	0.18	0.54	0.13	0.40	0.54
INT2	0.73	0.36	0.63	-0.39	0.38	0.45	0.31	0.41	0.10	0.16	-0.45	0.36	**0.94**	0.20	0.46	0.15	0.37	0.46
SMC1	0.21	0.10	0.28	-0.19	0.22	0.20	0.17	0.19	0.30	0.70	-0.13	0.19	0.24	**0.93**	0.24	0.45	0.16	0.14
SMC2	0.16	0.08	0.21	-0.14	0.13	0.12	0.18	0.14	0.41	0.71	-0.09	0.16	0.15	**0.89**	0.17	0.53	0.13	0.11
SMC3	0.17	0.09	0.24	-0.15	0.16	0.15	0.17	0.16	0.36	0.72	-0.10	0.17	0.18	**0.96**	0.19	0.50	0.15	0.12
SMC4	0.19	0.09	0.25	-0.16	0.17	0.16	0.17	0.17	0.35	0.72	-0.11	0.18	0.19	**0.97**	0.20	0.50	0.16	0.13
SEF1	0.44	0.27	0.51	-0.53	0.52	0.43	0.22	0.28	0.13	0.16	-0.42	0.23	0.46	0.21	**0.93**	0.16	0.33	0.42
SEF2	0.54	0.32	0.55	-0.57	0.56	0.49	0.22	0.30	0.11	0.12	-0.48	0.22	0.54	0.18	**0.94**	0.11	0.33	0.49
SMCR1	0.17	0.07	0.20	-0.15	0.12	0.11	0.19	0.13	0.32	0.48	-0.13	0.18	0.19	0.53	0.17	**0.78**	0.12	0.15
SMCR2	0.12	0.08	0.15	-0.07	0.05	0.08	0.15	0.08	0.40	0.57	-0.04	0.13	0.14	0.43	0.12	**0.86**	0.10	0.09
SMCR3	0.10	0.05	0.14	-0.07	0.03	0.05	0.16	0.10	0.39	0.53	-0.06	0.14	0.11	0.47	0.11	**0.94**	0.09	0.09
SMCR4	0.08	0.05	0.12	-0.04	0.01	0.04	0.15	0.08	0.39	0.54	-0.05	0.13	0.09	0.43	0.10	**0.92**	0.11	0.07
TSV1	0.49	0.34	0.44	-0.41	0.36	0.59	0.35	0.49	0.12	0.15	-0.33	0.41	0.40	0.14	0.34	0.10	**0.91**	0.41
TSV2	0.49	0.30	0.44	-0.42	0.36	0.60	0.34	0.48	0.13	0.17	-0.33	0.39	0.39	0.16	0.35	0.12	**0.92**	0.40
TSV3	0.37	0.25	0.34	-0.29	0.26	0.46	0.35	0.41	0.11	0.14	-0.23	0.43	0.30	0.13	0.23	0.10	**0.82**	0.31
TRT1	0.36	0.20	0.39	-0.36	0.23	0.34	0.28	0.25	0.06	0.05	-0.43	0.24	0.29	0.05	0.33	0.07	0.29	**0.66**
TRT2	0.37	0.25	0.42	-0.34	0.21	0.35	0.27	0.31	0.08	0.12	-0.36	0.26	0.28	0.11	0.28	0.12	0.33	**0.65**
TRT3	0.55	0.30	0.59	-0.45	0.32	0.48	0.34	0.39	0.07	0.11	-0.59	0.35	0.47	0.11	0.41	0.09	0.40	**0.82**
TRT4	0.44	0.23	0.47	-0.45	0.33	0.39	0.22	0.29	0.06	0.10	-0.69	0.22	0.45	0.10	0.40	0.09	0.28	**0.83**
TRT5	0.48	0.24	0.50	-0.47	0.33	0.40	0.24	0.31	0.09	0.12	-0.65	0.26	0.48	0.12	0.41	0.08	0.31	**0.81**

ATT – Attitude; COMM – Communicability; COMP – Compatibility; COMPX – Complexity; CONTRO – Controllability; ENJOY – Enjoyment; PP – Perceived Playfulness; PRA – Perceived Relative Advantages; SM – Social Media

5.3.1.2. FORMATIVE CONSTRUCTS

As discussed previously, the formative constructs in the proposed model are the second order constructs, namely perceived relative advantages, perceived behavioural control and social media involvement.

The quality of the measures for formative second-order factors was tested following the suggestions by Chin (1998a), Becker et al. (2012) and Hair et al. (2010). Tests of measurement quality for a second order factor model should, by analogy, follow the same process that is used to examine the first order factors (Chin, 1998a). Therefore, the assessment of measurement quality of second order constructs is conducted in two stages. In the first stage, the appropriateness of the first-order constructs were assessed using the appropriate quality criteria for reflective constructs (Becker et al., 2012), since the first order constructs were all reflective. In the second stage, the assessment of the second order constructs is done from the relations between lower order constructs and higher order constructs (Becker et al., 2012). This step applies the quality criteria for formative items, but at this higher order level (Chin, 2010b), in which the first order constructs now act as indicators of the second order factor (Hair et al., 2010).

Several researchers have emphasized that traditional validity assessments do not apply to indicators that are used in formative measurement models (e.g. Gotz et al., 2010; Hair et al., 2011; Hair, Sarstedt, Ringle, et al., 2012; Henseler et al., 2009; Petter et al., 2007). In contrast to reflective models, formative models assume that the indicators have an impact or cause the construct (Jarvis et al., 2003). This causality reversal implies a different interpretation and evaluation of the measurement model (Gotz et al., 2010). Indeed, the reason why one uses a formative approach is usually that the related construct is seen as comprising different dimensions and internal consistency or reliability of the different dimensions is unimportant because each dimension is examining a different facet of the multidimensional construct (Petter et al., 2007).

The criteria used to assess the formative measurement model are based on Hair et al.'s (2011), Henseler et al.'s (2009) and MacKenzie, Podsakoff, and Jarvis'(2005) guidelines and are summarized in Table 5.23.

Table 5.23– Criteria for Assessing Formative Models

Validity	Criterion	Description
Indicator Validity (1st order construct validity)	Indicator weights	Indicators' weights should be higher than 0.1 (Andreev, Heart, Maoz, & Pliskin, 2009) and bootstrapping should be used to verify their significance (Hair et al., 2011; Henseler et al., 2009).
	Variance Inflation Factor (VIF)	Measures the degree of multicollinearity. Hair et al. (2011) consider that it should be less than 5, while Diamantopoulos and Siguaw (2006) consider a lower value of 3.3.
Construct validity (2nd order construct validity)	Nomological Validity	Assesses if the construct behaves as expected. The relationships between the formative construct and other constructs in the path model that are well supported in literature should be strong and significant (Henseler et al., 2009).
	Discriminant Validity	If the correlations between the formative and all the other constructs are less than 0.70, the constructs differ sufficiently from one another (MacKenzie et al., 2005).

Henseler et al. (2009) recommend assessing the validity of formative constructs on two levels: the indicator level and the construct level, that adapted to a hierarchical model means assessing first order constructs (that now act as indicators) and the second order constructs.

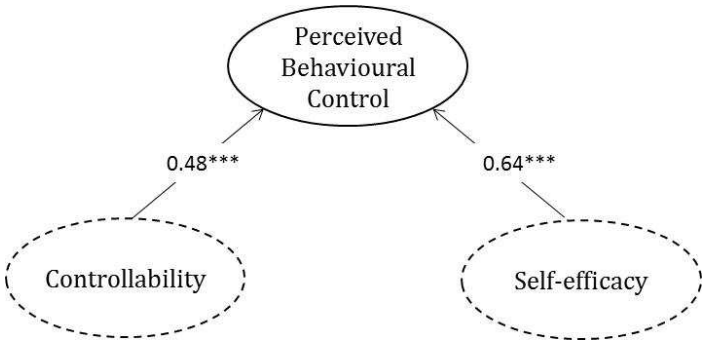
At the first order construct level, it is necessary to assess if each first order construct contributes to form the second order construct (Chin, 1998a; Hair et al., 2011). Therefore, the weights of the first order constructs on the second order constructs and their significance were examined (see Table 5.24). For a formative higher-order construct, the weights of the lower-order constructs are especially important as they represent actionable drivers of the higher-order construct (Becker et al., 2012).

Table 5.24– Weights of the First Order Constructs on the Second Order Constructs

2nd Order Constructs	1st Order Constructs	Weight	t-Statistic
Perceived Behavioural Control	Self-Efficacy	0.64	60.79***
	Controllability	0.48	61.01***
Perceived Relative Advantages	Convenience	0.27	39.38***
	Financial Advantage	0.30	41.94***
	Time Saving	0.30	42.32***
	Enjoyment	0.18	30.27***
	Product Variety	0.24	37.39***
Social Media Involvement	Social Media Consumption	0.35	71.62***
	Social Media Creation	0.28	54.35***
	Perceived Playfulness Social Media	0.35	72.87***
	Interest in Social Media	0.25	35.93***

***Significant at 0.001 level based on 5000 bootstraps

For a better perception of the relationship between the first order constructs and the second order formative construct, the weights are shown in the form of a diagram in Figure 5.2, Figure 5.3 and Figure 5.4 for perceived behavioural control, perceived relative advantages and social media involvement, respectively.

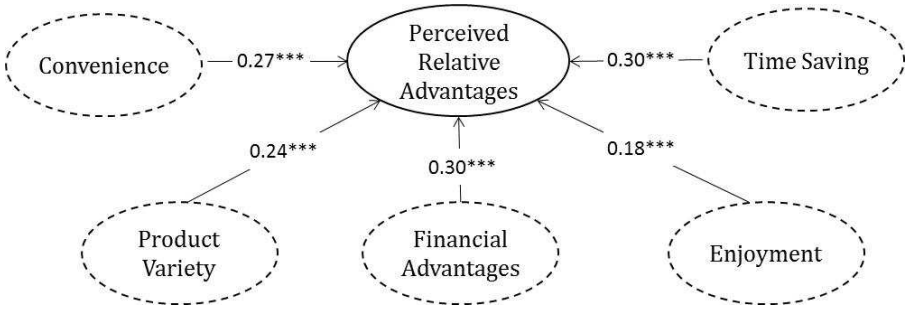


***Significant at the 0.001 level based on 5000 bootstrap samples

Figure 5.2– PLS results for the relationship between perceived behavioural control and its first order constructs

As illustrated in Figure 5.2, self-efficacy was found to be more relevant than controllability in explaining perceived behavioural control.

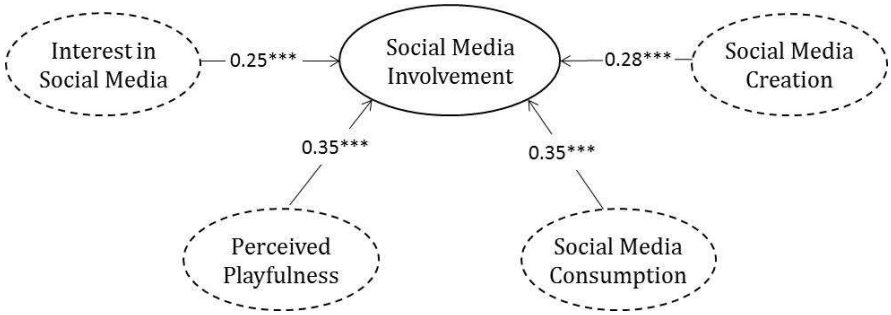
Regarding perceived relative advantages, all of its dimensions are significant, with financial advantages, time saving and convenience being the most relevant and enjoyment the less important (see Figure 5.3).



***Significant at 0.001 level based on 5000 bootstrap samples

Figure 5.3 – PLS results for the relationship between perceived relative advantages and its first order constructs

The results also demonstrate that social media involvement can be conceptualized as a formative multidimensional construct, formed by interest in social media, social media consumption, social media creation and perceived playfulness with the use of social media (all for travel related purposes), since all of the weights of the first order constructs are significant (Figure 5.4).



*** Significant at 0.001 level based on 5000 bootstrap samples

Figure 5.4– PLS results for the relationship between social media involvement and its first order constructs.

In sum, all first order constructs weights are significant, which means that there is empirical support for the first order constructs relevance for the construction of the formative second order constructs as theoretically conceived, demonstrating a sufficient level of validity (Hair et al., 2011; Urbach & Ahlemann, 2010). Moreover, the weights are higher than 0.10 and their sign is consistent with the underlying theory (Andreev et al., 2009).

Another important criterion for assessing the validity of the first order constructs is to examine multicollinearity. Unlike constructs with a reflective measurement, where multicollinearity between construct items is desirable (illustrated by high Cronbach's alpha, for example), excessive multicollinearity between the formative first order constructs can destabilize the model (Diamantopoulos & Winklhofer, 2001; Petter et al., 2007) and may cause the weights to be non-significant and, therefore, redundant (Hair et al., 2011). If the first order constructs are highly correlated, it may suggest that they are tapping into the same aspect of the construct (Petter et al., 2007) and therefore, a formative nature for the second order construct would be inappropriate. Indeed, it would be consistent for the formative first order constructs to be completely uncorrelated (Jarvis et al., 2003). Therefore, to ensure that multicollinearity was not present, which would raise doubts about the validity of the formative measurement (Diamantopoulos & Winklhofer, 2001), the variance inflation factor (VIF) was determined. As shown in Table 5.25, the VIF values varied from 1.504 to a maximum of 3.083, which is far below the common cut-off threshold of 5 (Hair et al., 2011) and still below Diamantopoulos and Siguaw's (2006) more conservative cut-off of 3.3.

Table 5.25– The Variation Inflation Factor of the 1st order constructs

2nd Order Constructs	1st Order Constructs	Variance Inflation Factor (VIF)
Perceived Behavioural Control	Self-Efficacy	1.504
	Controllability	1.504
Perceived Relative Advantages	Convenience	1.919
	Financial Advantage	1.783
	Time Saving	1.829
	Enjoyment	1.603
	Product Variety	1.915
Social Media Involvement	Social Media Consumption	1.429
	Social Media Creation	3.083
	Perceived Playfulness Social Media	2.424
	Interest in Social Media	1.652

At the second order construct level it is important to assess the nomological validity, i.e., if the formative construct carries the intended meaning. This may be manifested in the magnitude and significance of the relationships between the second order formative construct and other constructs in the research model, which are expected to be strong and significant based on previous research (Henseler et al., 2009; Peng & Lai, 2012).

Table 5.26 shows the relationships between the second order constructs and other constructs in the model, according to the hypotheses proposed in the model.

Table 5.26– Structural estimates between Second Order Constructs and other constructs in the model

Path	Coefficient	T-Statistic
Perceived Behavioural Control -> Intentions to Purchase	0.09	4.45***
Perceived Behavioural Control -> Complexity	-0.64	42.17***
Perceived Relative Advantage -> Attitude	0.26	10.94***
Perceived Relative Advantage -> Intentions to Purchase	0.00	0.32 ns
Social Media Involvement -> Perceived Risk	-0.01	0.58 ns
Social Media Involvement -> Intentions to Purchase	0.01	0.88 ns

***Significant at the 0.001 level based on 5000 bootstrap samples
ns - non significant

The results indicate significant relationships between perceived behavioural control and perceived relative advantages with other constructs in the model, consistent with underlying theory, indicating nomological validity. Although perceived relative advantage does not exhibit a significant effect on intentions to purchase travel online,

as hypothesized, this is due to the mediating effect of attitude, as will further be discussed.

Social media involvement does not have a significant relationship with the other constructs. However, the relationship between social media involvement and the other constructs proposed had never been empirically tested, meaning that these findings of non-significant relationships do not go against previous research, but rather present an advance to the body of knowledge.

Finally, as suggested by MacKenzie et al. (2005), correlations between the formative and other constructs should be less than 0.70 to conclude that they differ sufficiently from one another. As shown in Table 5.27, correlations between social media involvement, perceived behavioural control and perceived relative advantages with other constructs are lower than 0.7. Hence, it can be concluded that the criteria for discriminant validity was also met in this study.

Table 5.27– Construct Correlations

Constructs	1	2	3	4	5	6	7	8	9	10
1 - Attitude	1									
2 - Communicability	0.49	1								
3 - Compatibility	0.74	0.33	1							
4 - Complexity	-0.50	-0.34	-0.52	1						
5 - Perceived Behavioural Contro	0.55	0.37	0.58	-0.64	1					
6 - Perceived Relative Advantages	0.65	0.38	0.63	-0.49	0.47	1				
7 - Perceived Risk	-0.52	-0.27	-0.58	0.56	-0.49	-0.44	1			
8 - Purchase Intentions	0.78	0.39	0.70	-0.46	0.55	0.55	-0.53	1		
9 - Social Media Involvement	0.20	0.11	0.25	-0.16	0.19	0.24	-0.12	0.19	1	
10 - Trust	0.59	0.32	0.63	-0.55	0.50	0.54	-0.73	0.53	0.15	1

In conclusion, the outer model exhibits the sound reliability and validity necessary to proceed with the assessment of the inner model.

5.3.2. INNER MODEL ASSESSMENT

Since the outer model evaluation provided evidence of reliability and validity, the inner model estimates were examined to assess the hypothesized relationships among the constructs in the conceptual model (Hair, Sarstedt, Ringle, et al., 2012). The classic measures for CB-SEM are not applicable in PLS-SEM (Hair, Sarstedt, Ringle, et al., 2012) and therefore researchers must focus their evaluation on other criteria to assess the inner model. Recently, Hair, Sarstedt, Ringle, et al. (2012) reported that most PLS studies in Marketing Research assess the inner model basically by examining the significance of the path coefficients and R^2 values. However, they stress the importance of using a greater number of measures to assess the inner model's quality, especially because PLS-SEM does not allow assessment of model fit like CB-SEM does. Therefore, the inner model proposed in this study was evaluated with several measures, following Chin's (1998b), Henseler et al.'s (2009, 2012) and Hair et al.'s (2012) recommendations, summarized in Table 5.28.

Table 5.28– Criteria for Assessing Inner Models (PLS)

Validity	Criterion	Description
Assessment of effects	Path coefficients	The parameter estimates of the path relationships in the structural model can be interpreted as standardized regression coefficients (Henseler et al., 2012) and should be evaluated in terms of sign, magnitude and significance (Henseler et al., 2009).
Predictive Relevance	R^2	R2 values express the proportion of the endogenous latent variables' explained variance (Henseler et al., 2012). Values of 0.67, 0.33, and 0.19 are substantial, moderate, and weak, respectively (Chin, 1998b).
	Effect size f^2	Values of 0.02, 0.15 and 0.35 can be viewed as a gauge of whether a predictor latent variables has a small, medium or large effect at the structural level (Henseler et al., 2012).
	Predictive relevance Q^2	The Q^2 statistic represents a measure of how well observed values are reconstructed by the model and its parameter estimates (Chin, 2010b). The proposed threshold value is $Q^2 > 0$ (Henseler et al., 2012).
	Relative predicted relevance q^2	Measures the predictive relevance's (Q^2) relative impact. Values of 0.02, 0.15 and 0.35 reveal a small, medium or large predictive relevance (Henseler et al., 2009).

5.3.2.1. ASSESSMENT OF EFFECTS

The standardized path coefficients and significance levels provide evidence of the inner model's quality (Chin, 1998b; Hair, Sarstedt, Ringle, et al., 2012) and allow researchers to test their proposed hypotheses. The path coefficients and significance levels are illustrated in Figure 5.5.

One of the most noticeable impacts on intentions to purchase travel online is associated with attitude (H1). Seven non-significant paths were also obtained, implicating that the corresponding hypotheses were not supported. One of the most surprising results was the insignificant path between social media involvement and intentions to purchase travel online.

Figure 5.5 - PLS Analysis Results

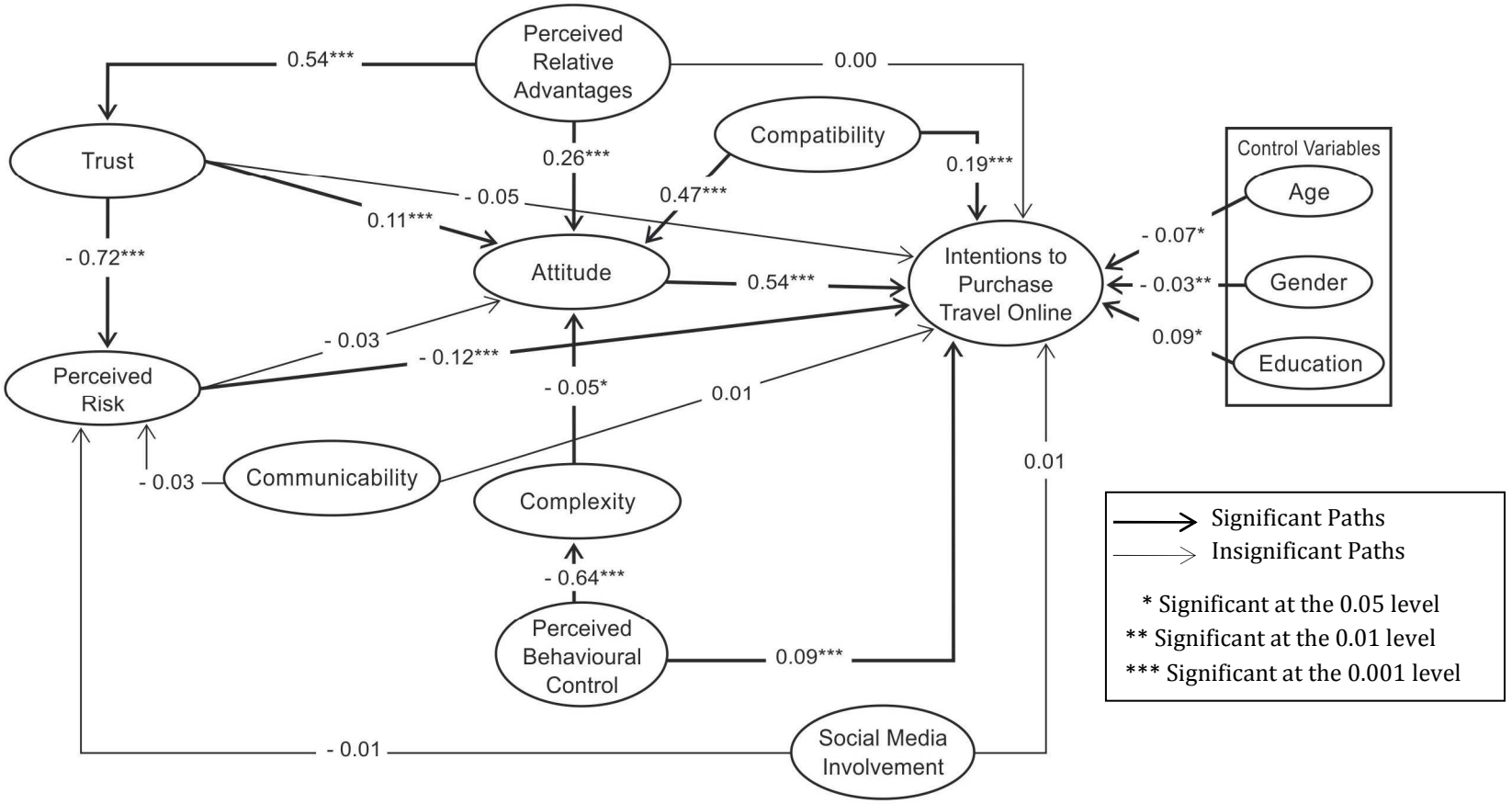


Table 5.29 summarizes the hypotheses proposed in this study, which will be further discussed in the next chapter, in section 6.2- Discussion of the Results. In addition, the table provides the confidence intervals, as recommended by several authors (e.g. Hair, Sarstedt, Ringle, et al., 2012; Ringle et al., 2012). Since the confidence intervals of the supported hypotheses do not include zero, the hypothesis that the path coefficient equals zero is rejected (Henseler et al., 2009).

Table 5.29– Hypotheses Tests Results

Hypotheses	Path Coefficient	Percentile 95% Confidence Intervals	t-Value	p value[13]	Support of Hypothesis
H1: Attitude towards online travel shopping positively influences Intentions to purchase travel online.	0.54	[0.49; 0.59]	20.88***	p=0.00	Supported
H2:Communicability positively influences intentions to purchase travel online.	0.01	[-0.02; 0.00]	0.60ns	p=0.33	Not supported
H3: Communicability negatively influences perceived risk with online travel shopping.	-0.03	[-0.07; 0.00]	1.72ns	p=0.09	Not supported
H4: Individual's perceived complexity of online travel shopping will be negatively related to attitude towards online travel shopping.	-0.05	[-0.10; -0.01]	2.08*	p=0.04	Supported
H5: Individual's perceived compatibility with online travel shopping will be positively related to attitude towards online travel shopping.	0.47	[0.42; 0.53]	17.18***	p=0.00	Supported
H6: Individual's perceived compatibility with online travel shopping will be positively related to intentions to purchase travel online.	0.19	[0.13; 0.24]	6.72***	p=0.00	Supported
H7: A person's perceived behavioural control over purchasing travel online positively influences intentions to purchase travel online.	0.09	[0.05; 0.13]	4.45***	p=0.00	Supported
H8: A person's perceived behavioural control over purchasing travel online negatively influences perceived complexity.	-0.64	[-0.67; -0.61]	42.17***	p=0.00	Supported
H9: Perceived relative advantages of online travel shopping will be positively related to intentions to purchase travel online.	0.00	[-0.03; 0.02]	0.32ns	p=0.38	Not supported
H10: Perceived relative advantage of online travel shopping will be positively related to attitudes towards online travel shopping.	0.26	[0.21; 0.30]	10.94***	p=0.00	Supported
H11: Perceived relative advantage of online travel shopping will be positively related to trust in online travel shopping.	0.54	[0.50; 0.58]	26.81***	p=0.00	Supported

[13] The current study considers the value of p=0.05 the limit in judging whether the relationship is considered to be significant or not.

Table 5.29 - Hypotheses Tests Results (Continued)

Hypotheses	Path Coefficient	Percentile 95% Confidence Intervals	t-Value	p value	Support of Hypothesis
H12: The perceived risk in online travel shopping has a negative influence on attitude towards online travel shopping.	-0.03	[-0.07; 0.01]	1.25ns	p=0.18	Not supported
H13: The perceived risk in online travel shopping has a negative influence on intentions to purchase travel online.	-0.12	[-0.17; -0.07]	4.88***	p=0.00	Supported
H14: Trust in online travel shopping has a positive influence on attitude toward online shopping.	0.11	[0.05; 0.16]	3.93***	p=0.00	Supported
H15: Trust in online travel shopping has a negative influence on perceived risk with online travel shopping.	-0.72	[-0.75; -0.69]	49.94***	p=0.00	Supported
H16: Trust in online travel shopping has a positive influence on intentions to purchase travel online.	-0.05	[-0.10; 0.00]	1,89ns	p=0.07	Not supported
H17: Individuals' social media involvement is positively related to intentions to purchase travel online.	0.01	[-0.03; 0.02]	0.88ns	p=0.27	Not supported
H18: Individuals' social media involvement is negatively related to perceived risk in online travel shopping.	-0.01	[-0.01; 0.03]	0.58ns	p=0.34	Not supported

*Significant at the 0.05 level; ** Significant at the 0.01 level; *** Significant at the 0.001 level
ns – non signficant

The total effects (indirect effect + direct effect) of the independent constructs on the dependent ones were also examined, since they provide practitioners with actionable results regarding cause-effect relationships (Hair et al., in press). Table 5.30 shows the direct, indirect and total effects of the predictors of the main dependent variable of the model, intentions to purchase travel online. The t-statistic reveals whether the total effect is significant or not.

Table 5.30- Direct, Indirect and Total Effects on Intentions to Purchase

Construct	**Direct**	**Indirect**	**Total**	**t-statistic**
Attitude	0.54	-	0.54	20.88***
Communicability	0.01	-	0.01	0.61 ns
Compatibility	0.19	0.25	0.44	14.99***
Complexity	-	-0.03	-0.03	2.03*
Perceived Behavioural Control	0.09	0.02	0.11	4.75***
Perceived Relative Advantages	0.00	0.19	0.19	7.58***
Perceived Risk	-0.12	-0.02	-0.14	4.76***
Social Media Involvement	0.01	0.0	0.01	0.68 ns
Trust	-0.05	0.16	0.11	2.05*

*Significant at the 0.05 level; *** Significant at the 0.001 level; ns - non significant

Attitude remains the most influent construct on intentions to purchase travel online, followed by compatibility. However, what is noticeable is the total effect that perceived relative advantages now has on intentions. Indeed, while it has an insignificant direct effect, the total effect appears to be meaningful and statistically significant. One of the proposed hypotheses was that perceived relative advantages had a positive and direct effect on intentions to purchase travel online. However, the empirical results indicate that this effect is not significant. A possible explanation could be that attitude is acting as a mediator between perceived relative advantages and intentions to purchase travel online. Mediation is said to occur when "the causal effect of an independent variable (X) on a dependent variable (Y) is transmitted by a mediator (M). In other words, X affects Y because X affects M, and M, in turn, affects Y" (Preacher, Rucker, & Hayes, 2007, p. 186).

To explore the mediating effect of attitude and its significance, the relationship between perceived relative advantages and intentions to purchase travel online, without the mediator (attitude) was analysed, as suggested by Holmbeck (1997). The results, given in Table 5.31, evidence that, if attitude was removed from the model, perceived relative advantages would have a significant direct effect on intentions to purchase travel online. However, this direct effect is fully mediated by attitude, since the previously significant relationship is no longer significant with the presence of attitude (Baron & Kenny, 1986).

Table 5.31– Path between Perceived Relative Advantages and Intentions to Purchase Travel Online (without Attitude in the Model)

Path	Path coefficient	t-Statistic
Perceived Relative Advantages – Intentions to Purchase Travel Online	0.106	4.405***

*** Significant at the 0.001 level

To establish the mediating effect, the indirect effect has to be significant and can be tested with Sobel's Z-statistic (Sobel, 1982). If Z is higher than 1.96, then the mediating effect is significant (at $p < 0.05$). The value obtained was 26.25 (see Appendix 7 for more details), proving that attitude's mediating effect is indeed significant. To estimate the magnitude of the indirect effect of the mediation, the

Variance Accounted For (VAF) was calculated (see Appendix 8) and a value of 0.8667 was obtained. This means that 86.67% of the total effect is explained by the indirect effect. In conclusion, although apparently it may seem that perceived relative advantages do not affect intentions to purchase travel online, it actually has a significant indirect effect.

5.3.2.2. PREDICTION QUALITY

As stated in the previous chapter, PLS is a prediction-oriented approach aimed at maximizing the explained variance of the endogenous constructs. Therefore, to evaluate the predictive power of the research model, a major emphasis in PLS analysis is to examine the explained variance (R^2) of the endogenous constructs[14] (Chin, 2010b) that indicate the amount of variance in the construct which is explained by the model (Barclay et al., 1995).

Table 5.32- Explained Variance of the Endogenous Constructs

Endogenous Constructs	R^2
Intentions to Purchase	0.668
Attitude Towards Online Travel Shopping	0.619
Trust	0.289
Perceived Risk	0.540
Complexity	0.407

As shown in Table 5.32, R^2 values range from 0.289 to 0.668. It should be noted that the R^2 assessment is rather subjective because it depends on the specific research discipline (Henseler et al., 2012). For example, in the consumer behaviour discipline, several researchers consider that R^2 values of 0.25 are considered high (Hair et al., 2013; Henseler et al., 2012). The main dependent variable in the current model is consumers' intentions to purchase travel online, with a R^2 value of 0.668, indicating that the theoretical model explained a substantial amount of variance of that construct. In addition, the model accounts for almost 62% of the variance in attitude,

[14] It should be noted that when the repeated indicators approach is used, the variance of the second order construct is perfectly explained by its lower components, therefore R^2=1.0 (Ringle et al., 2012).Therefore the R^2 of the second order constructs are not reported.

an important construct due to the number of predictors. Regarding the remaining endogenous variables, since they rely on few constructs (Trust and Complexity only have 1 predictor, for example), moderate levels of R^2 are acceptable (Henseler et al., 2009). These results evidence that the model has high predictive value and is capable of explaining endogenous constructs.

Besides examining the R^2 of the endogenous variables, researchers (e.g. Hair, Sarstedt, Ringle, et al., 2012; Henseler et al., 2009; Ringle et al., 2012) recommend evaluating the effect size of each path in the structural model by means of Cohen's effect size f^2 (Cohen, 1988). The effect size shows whether an independent construct has a substantial influence on the dependent construct (Gotz et al., 2010) and is calculated as the increase in R^2 of the construct to which the path is connected, relative to the construct's proportion of unexplained variance (Chin, 1998b). The change in the dependent construct's R^2 is calculated by estimating the structural model twice, once with the endogenous construct and once without it (Gotz et al., 2010) (see Appendix 9 for the calculations of f^2). Values for effect size (f^2) between 0.020 and 0.150, between 0.150 and 0.350 and over 0.350 indicate that an exogenous construct has a small, medium or large effect on an endogenous construct (Chin, 1998b; Henseler et al., 2012). Table 5.33 reports the effect size in respect to the exogenous constructs.

Table 5.33 - Relative Explanatory Power Effect Size

	f^2 in relation to				
	Attitude	Complexity	Purchase Intentions	Perceived Risk	Trust
Attitude	-	-	**0,30**	-	-
Compatibility	**0,27**	-	*0,04*	-	-
Complexity	0,002	-	-	-	-
PBC	-	**0,69**	0,01	-	-
PRA	*0,09*	-	-	-	**0,41**
Perceived Risk	-	-	*0,02*	-	-
Trust	0,013	-	-	**1,00**	-
Age	-	-	0	-	-
Gender	-	-	0,01	-	-
Education Level	-	-	*0,05*	-	-

Note: Only significant paths' effect sizes were calculated, since the effect size of insignificant paths are 0.
For easiness of reading, small effects are italicized and medium and large effects are highlighted in bold.

Dropping attitude would significantly reduce the variance explained in intentions to purchase travel online, whereas dropping compatibility would only have a small effect. Although perceived risk, perceived behavioural control, age, gender and education level have a significant effect on intentions to purchase travel online, dropping them from the model would have no effect size on the variance explained. Compatibility seems to be the key explanatory factor in terms of incremental variance explained of attitude, since perceived relative advantage has a small effect size and trust and complexity have none. Trust has a large effect size on perceived risk, which is not surprising since it is the only construct that has a significant effect on that construct. Finally, perceived behavioural control and perceived relative advantages significantly contribute to the variance explained of their dependent constructs, complexity and trust respectively, which was expected since they are the only predictors of those constructs.

Another approach to assess predictive relevance is to apply the predictive sample reuse technique developed by Stone (1974) and Geisser (1975), known as the Stone-Geisser's Q^2. The PLS adaptation of this approach follows a blindfolding procedure that omits part of the data for a particular block of indicators during parameter estimations and then attempts to estimate the omitted part using the estimated parameters (Chin, 2010b). Q^2 measures the extent to which this prediction is successful (Urbach & Ahlemann, 2010). If $Q^2 > 0$, the model has predictive relevance, whereas $Q^2 < 0$ represents a lack of predictive relevance (Chin, 2010b; Henseler et al., 2009). Table 5.34 presents the predictive relevance of the endogenous constructs, obtained by using the blindfolding feature in SmartPLS[15]. It should be noted that the blindfolding procedure is only applied to endogenous constructs that have a reflective measurement model (Henseler et al., 2009). Therefore, the Q^2 for the second order formative constructs were not calculated.

[15] To apply the blindfolding procedure the omission distance (necessary to compute Q^2) used was 7, following Chin's (1998b) and Henseler et al.'s (2012) recommendations that it should be between 5 and 10 and the number of valid observations divided by the omission distance should not be an integer.

Table 5.34- Predictive Relevance

Construct	Q^2
Intentions to Purchase	0.584
Attitude Towards Online Travel Shopping	0.460
Trust	0.165
Perceived Risk	0.339
Complexity	0.228

The analysis of the Q^2 values shows that all endogenous variables can be predicted by the model, since they are superior to zero, indicative of the endogenous constructs' predictive relevance.

Similar to the effect size f^2 evaluation, the predictive relevance's Q^2 relative impact can be measured by the measure of q^2 (Henseler et al., 2009) (See Appendix 10 for the calculations of relative predicted relevance)

Table 5.35– Relative Predicted Relevance

	q^2 in relation to		
	Attitude	Intentions	Perceived Risk
Attitude	-	**0.212**	-
Compatibility	*0.139*	*0.024*	-
Complexity	0.002		-
PBC	-	0.01	-
PRA	*0.052*	-	-
Perceived Risk	-	0,01	-
Trust	0.007	-	**0.440**
Age	-	0.005	-
Gender	-	0	-
Education Level	-	0.01	-

Note: Only significant paths' effect sizes were calculated, since the effect size of insignificant paths is 0.
For easiness of reading, small effects are italicized and medium and large effects are highlighted in bold.

As shown in Table 5.35, attitude has the largest effect size on intentions to purchase travel online, with a medium predictive relevance (q^2 = 0.212), indicating that it has more predictive relevance on intentions than all other predictors.

Regarding attitude, compatibility is the dependent variable with the most significant predictive relevance (q^2=0.139), followed by perceived relative advantages (q^2=0.052).

Trust has a large predictive relevance on perceived risk (q^2 = 0.44), which is not surprising since it is the only predictor that has a significant relationship.

5.3.3. CONTROL VARIABLES

The purpose of the control variables was to evaluate the hypotheses, independently of age, gender and education. This means that the supported hypotheses are valid regardless of age, gender and education level. The empirical results regarding the control variables provided evidence for the impact of age, gender and education level on intentions to purchase travel online (see Table 5.36).

Table 5.36– Results of the Control Variables

Paths between Control Variables and Intentions to Purchase Travel Online	Path Coefficients	Percentile 95% Confidence Intervals	t-Value	p value
Age – Intentions to Purchase	-0.07	[-0.1; -0.04]	4.30***	0.00
Gender – Intentions to Purchase	-0.03	[-0.05; 0.00]	1,97*	0.05
Education Level – Intentions to Purchase	0.09	[0.05; 0.12]	5.32***	0.00

* Significant at the 0.05 level
*** Significant at the 0.001 level

Although the control variables do not drive the theory proposed in this study, it is worthwhile to further look into the influence of these socio-demographic variables on intentions to purchase travel online, especially considering that literature has revealed contradictory results regarding this relationship, as highlighted in Chapter 2. Indeed, while a significant number of studies demonstrate that age, education levels and gender affect the purchase of travel online (e.g. Heung, 2003; Kamarulzaman, 2007, 2010; Kim & Kim, 2004; Law & Bai, 2008; Law et al., 2004; Lee et al., 2007; Li & Buhalis, 2006; Morrison et al., 2001; Wolfe et al., 2005), other studies found that there was no relationship (e.g. Beldona et al., 2011; Garín-Muñoz & Pérez-Amaral, 2011; Li & Buhalis, 2006; Moital, Vaughan, & Edwards, 2009; Weber & Roehl, 1999; Wolfe et al., 2005). Therefore, further analyses were conducted in SPSS to explore these relationships.

Gender

As shown in the Table 5.37, males have, in average, higher intentions to purchase travel online than females.

Table 5.37 - Descriptive Statistics of intentions to purchase travel online, by gender

Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	667	4.04	0.985	0.0381
Female	1065	3.89	1.05	0.0322

From the results obtained in PLS this difference is statistically significant, confirmed by both an independent t test and the Mann-Whitney test in SPSS (see Table 5.38 and Table 5.39).

Table 5.38 – Independent Samples t-Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	8.983	0.003	2.939	1730	0.003	0.149	0.051	0.05	0.25
Equal variances not assumed			2.984	1485	0.003	0.149	0.050	0.05	0.25

Table 5.39 - Mann-Whitney Test Statistics

	Purchase Intentions
Mann-Whitney U	326770,000
Wilcoxon W	894415,000
Z	-2.865
Asymp. Sig. (2-tailed)	0.0004

Grouping Variable: Gender

The results of the tests show that, in the current sample, males have higher intentions to purchase travel online than females. This was surprising since the majority of studies had found that gender did not influence the purchase of travel online (e.g. Beldona et al., 2011; Kim & Kim, 2004; Li & Buhalis, 2006; Morrison et al., 2001; Weber & Roehl, 1999; Wolfe et al., 2005). The studies that did find that gender

affected the purchase of travel online reached contradictory results. Law and Bai (2008) found that more males tended to purchase travel online than females, whereas Garín-Muñoz and Pérez-Amaral (2011) found just the opposite.

Age

Age is a categorical variable with 5 categories. However, the 4th and 5th categories (with 179 respondents with ages between 50 and 59 and 54 respondents with ages over 60, respectively) were merged to conduct the tests regarding differences between the age groups, in order to obtain more balanced group sizes[16].

As shown in Table 5.40, the group with highest intentions to purchase travel online is the group with ages between 30 and 39, with an average of 4.11, while the lowest is the group age of respondents over 50, with a mean of 3.77.

Table 5.40 – Descriptive Statistics of Intentions to Purchase Travel Online by age group

					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
18-29	599	3.90	0.991	0.041	3.82	3.98	1	5
30-39	496	4.11	0.966	0.043	4.02	4.19	1	5
40-49	404	3.93	1.05	0.052	3.82	4.03	1	5
+50	233	3.77	1.17	0.077	3.62	3.92	1	5
Total	1732	3.95	1.03	0.025	3.90	3.99	1	5

Figure 5.6 visually demonstrates the differences of means of intentions to purchase travel online among the four age groups.

[16] It should be noted that the means of intentions to purchase travel online of the groups merged were not statistically different.

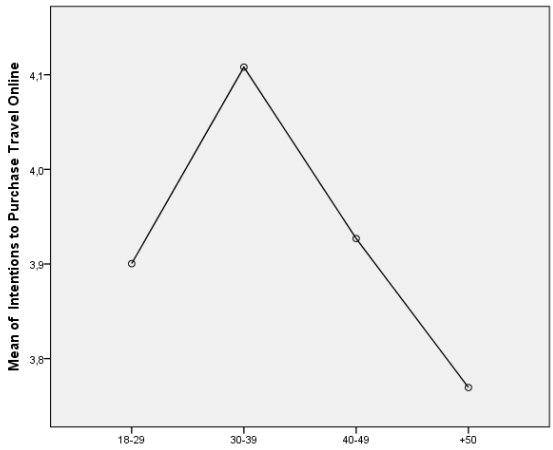


Figure 5.6 – Mean of Intentions to Purchase Travel Online by Age Group

In order to verify if the differences of means among the age groups are significant, an analysis of variance (ANOVA) was conducted. The results of this test, presented in Table 5.41, indicate that there is a statistically significant difference in the means of intentions to purchase travel online among the different age groups ($F(3,1728)=6.884$, p=0.000).

Table 5.41 - ANOVA of intentions to purchase travel online by age group

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	21,671	3	7,224	6,884	,000
Within Groups	1813,262	1728	1,049		
Total	1834,933	1731			

Post hoc analyses using the Scheffe criterion[17] for significance (see Table 5.42) indicate that intentions to purchase travel online is significantly higher in the age group of 30-39 compared to the age group of 18-29 (mean difference of 0.21, p=0.011) and over 50 (mean difference of 0.34, p=0.001). Nevertheless, no significant difference was found between the groups of age 18-29 and 40-49 (p=0.073).

[17] This post hoc test of multiple comparisons was employed not only for its robustness, but also because it can be applied even when the groups being compared have different sizes and it is also less sensitive to departures from normality and any assumptions of equal population variances than other tests (Sirkin, 2006).

Table 5.42- Multiple Comparisons of intentions to purchase travel online by age group – Scheffe tests

(I) age group	(J) age group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
18-29	30-39	-0.208*	0.062	0.011	-0.382	-0.034
	40-49	-0.027	0.066	0.984	-0.211	0.158
	+50	0.131	0.079	0.434	-0.090	0.352
30-39	18-29	0.208*	0.062	0.011	0.034	0.382
	40-49	0.181	0.069	0.073	-0.011	0.373
	+50	0.339*	0.081	0.001	0.111	0.566
40-49	18-29	0.027	0.066	0.984	-0.158	0.211
	30-39	-0.181	0.069	0.073	0.373	0.011
	+50	0.157	0.084	0.322	-0.078	0.393
+50	18-29	-0.131	0.079	0.434	-0.352	0.090
	30-39	-0.339*	0.081	0.001	-0.566	-0.111
	40-49	-0.157	0.084	0.322	-0.393	0.078

* The mean difference is significant at the 0.05 level.

It should be noted, however, that ANOVA requires a normal distribution and homogeneous variances among the populations being compared. Equal variances among the groups is rejected according to Levene's test (p=0.002) and according to the normality tests Kolmogorov-Smirnov and Shapiro-Wilk, the normality assumption is also rejected (see Appendix 11 for the test results).

ANOVA is a robust statistical test and violations of these assumptions does not necessarily affect the results (Jackson, 2010). Nevertheless, to confirm the results, the non-parametric alternative Kruskal-Wallis Test, that does not require those assumptions, was conducted (Table 5.43)

Table 5.43–Results of Kruskal-Wallis H Test

Null Hypothesis	Test	Sig.	Decision
The distribution of Purchase Intentions is the same across categories of age	Independet-Samples Kruskal-Wallis Test	,000	Reject the Null Hypothesis

The significance level is 0.05.

This test also rejects the hypothesis that intentions to purchase travel online are the same across categories of age.

Consistent with other empirical studies (e.g. Kim & Kim, 2004; Li & Buhalis, 2006; Weber & Roehl, 1999), the results evidence that Internet users between 30 and 39 years of age have higher intentions to purchase travel online when compared with users in the age group 18-29 and also in the group with ages over 50.

Education Level

This study considered four education levels: under the 12th grade, college degree, master degree and, finally, PhD degree. Table 5.44 shows some descriptive statistics of intentions to purchase travel online in each category of education level.

Table 5.44 – Descriptive Statistics of Intentions to Purchase Travel Online by Education level

					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
12th grade or less	201	3.57	0.996	0.070	3.433	3.71	1	5
College	565	3.75	1.038	0.044	3.665	3.836	1	5
Master	576	4.12	0.983	0.041	4.044	4.205	1	5
PhD	390	4.17	0.996	0.050	4.07	4.268	1	5
Total	1732	3.95	1.03	0.025	3.9	3.997	1	5

Figure 5.7 visually represents the mean of intentions to purchase travel online, by education level. It is visible that intentions to purchase travel online increases with educational level.

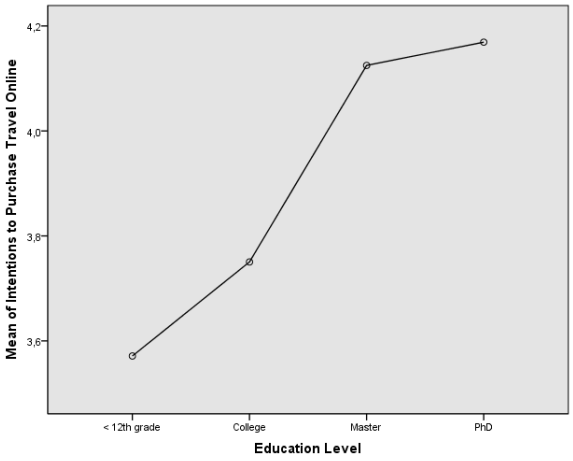


Figure 5.7– Mean of Intentions to Purchase Travel Online by Education Level

A one-way ANOVA was used to test for differences in intentions to purchase travel online among the four groups. The results show that intentions to purchase travel online differs significantly across the groups, F (3, 1728) = 28.898, p = .000 (see Table 5.45).

Table 5.45- ANOVA of Intentions to Purchase Travel Online by Education Level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	87,660	3	29,220	28,898	.000
Within Groups	1747,273	1728	1,011		
Total	1834,933	1731			

Post hoc comparisons using Scheffe's multiple comparison tests indicated that the mean score of intentions to purchase travel online of respondents with less than the 12th grade (mean of 3.57) was significantly different than that of respondents with a Master (mean of 4.12) or PhD degree (mean of 4.17), but did not differ from respondents with a college degree.

Table 5.46- Multiple Comparisons of Intentions to Purchase Travel Online by Education Level – Scheffe tests

(I) Education Level	(J) Education Level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
12th grade or less	College	-0.179	0.083	0.195	-0.410	0.052
	Master	-0.554*	0.082	0.000	-0.784	-0.323
	PhD	-0.598*	0.087	0.000	-0.842	-0.354
College	12th grade or less	0.179	0.083	0.195	-0.052	0.410
	Master	-0.374*	0.060	0.000	-0.541	-0.208
	PhD	-0.419*	0.066	0.000	-0.604	-0.233
Master	12th grade or less	0.554*	0.082	0.000	0.323	0.784
	College	0.374*	0.060	0.000	0.208	0.541
	PhD	-0.044	0.066	0.929	-0.229	0.140
PhD	12th grade or less	0.597*	0.087	0.000	0.354	0.842
	College	0.419*	0.066	0.000	0.233	0.604
	Master	0.044	0.066	0.929	-0.140	0.229

* The mean difference is significant at the 0.05 level.

Respondents with a PhD and Master degree have the highest intentions to purchase travel online and this difference is statistically different from respondents with an education level below 12th grade and a college degree.

As above-mentioned, ANOVA requires a normal distribution and homogenous variances among the populations being compared. However, even though the variances are homogenous (p=0.373, by Levene's test), according to the Kolmogorov-Smirnov and Shapiro-Wilk tests, a normal distribution is rejected (see Appendix 11 for the test results). Therefore, the non-parametric alternative Kruskal-Wallis Test was conducted (Table 5.47) to confirm results.

Table 5.47–Results of Kruskal-Wallis H Test

Null Hypothesis	Test	Sig.	Decision
The distribution of Purchase Intentions is the same across categories of education	Independet-Samples Kruskal-Wallis Test	,000	Reject the Null Hypothesis

The significance level is 0.05.

This test also rejects the hypothesis that intentions to purchase travel online are the same across education levels.

In conclusion, individuals with higher education level are more likely to purchase travel online, supporting the results obtained in studies conducted by other researchers (Heung, 2003; Kamarulzaman, 2010; Kim & Kim, 2004; Law & Bai, 2008; Law et al., 2004; Lee et al., 2007; Morrison et al., 2001; Weber & Roehl, 1999).

CHAPTER 6

DISCUSSION, CONTRIBUTIONS AND FUTURE RESEARCH

6.1. INTRODUCTION

This chapter discusses in greater detail the results presented in the previous chapter, namely by analysing and discussing the hypotheses proposed in the model. Furthermore, this chapter presents the theoretical contributions and practical implications of the findings, with recommendations for practitioners. Finally, the limitations of the study are presented and guidelines for future research are proposed.

6.2. DISCUSSION OF THE RESULTS

The main aim of this study was to determine which factors influence the purchase of travel online. In order to achieve this objective an extensive literature review was undertaken, revealing fragmented and contradictory results. Therefore, a holistic model grounded on well-established theories and integrating other constructs was proposed. The relationships between constructs of this model were tested and most of the hypotheses were confirmed.

Before testing the hypotheses, a descriptive analysis was conducted and some interesting and useful insights were obtained:

- In general, respondents feel that there is some risk involved with online travel shopping and feel apprehensive about it.
- Sixty two per cent of the respondents usually purchase travel online, with 76.6% affirming that they have purchased travel online at least once. These figures are considered to be high considering that PhoCusWright (http://www.phocuswright.com) found that 40% of Americans and 30% of Europeans book travel online.
- More than 80% of the respondents use social media for travel purposes, which reflects its importance to the travel and tourism industry.
- Tripadvisor is the most popular social media website, used by more than 53% of the social media users. TripAdvisor is indeed a popular travel community that received more than 57 million monthly unique visitors in the third quarter of 2012 (TripAdvisor, 2012a).
- Those who use social media for travel purposes are more consumers rather than producers of social media content and use it predominately before travelling, which is consistent with the findings of other studies (e.g. Cox et al., 2009; Yoo & Gretzel, 2011).
- After travelling, engagement with social media is mostly to post photos of trips, whereas before travelling, more than 63% of social media users often or always read hotel reviews. This demonstrates the importance of social media to the Hotel industry, since travellers are influenced by online hotel reviews and are willing to pay more for hotels with better ratings (ComScore, 2007; Sparks & Browning, 2011; Ye et al., 2009; Ye et al., 2011). More, the likelihood of being influenced by other travellers' reviews is greater for those that read online reviews more often (Gretzel et al., 2007).
- Social media users find that using social media for travel purposes can be fun and entertaining, supporting the results obtained in previous studies (e.g. Chung & Buhalis, 2008b; Gretzel & Yoo, 2008; Gretzel et al., 2007; Yoo & Gretzel, 2011).

The descriptive analysis was followed by the assessment of the outer model, in which the validity and reliability of the scales were confirmed. Furthermore, the assessment of the formative multidimensional constructs also demonstrated that perceived behavioural control, perceived relative advantages and social media involvement can be conceptualized as formative multidimensional constructs.

The decomposition of perceived behavioural control supports the distinction between self-efficacy and controllability, adding to the discussion raised by Terry (1993) that perceived behavioural control and self-efficacy are different concepts. Research conducted in other contexts (e.g. Hsu & Chiu, 2004a, 2004b; Pavlou & Fygenson, 2006) has also found empirical evidence supporting the decomposition of perceived behavioural control as proposed by Ajzen (2002b). However, to the best of the researcher's knowledge, the present study is the first to decompose perceived behavioural control in the context of online travel shopping. More, the current study supports the findings of studies that have decomposed the perceived behavioural control construct in other contexts (e.g. Sparks et al., 1997; Trafimow et al., 2002), that self-efficacy is more relevant than controllability in explaining perceived behavioural control.

Regarding perceived relative advantages, the decomposition provides greater insights to online travel providers about the different facets of advantages that affect online travel shopping. All of the five facets were significant, however, convenience, time-saving and financial advantages appear to be the most significant advantages of purchasing travel online, while enjoyment and product variety seem to be less important. The findings suggest that consumers especially look for efficiency and savings when deciding to purchase travel online.

This study has also taken an innovative approach regarding the use of social media for travel purposes by empirically demonstrating that social media involvement can be explained by different facets concerning social media, namely, interest in social media, social media consumption, social media creation and perceived playfulness with the use of social media (all for travel related purposes).

Finally, the structural relationships of the inner model (the proposed hypotheses) were tested. The first hypothesis predicted that attitude towards online travel shopping would positively influence intentions to purchase travel online. Consistent with intention based models and with other studies conducted in the online travel context (e.g. Bigné et al., 2010; Lee et al., 2007; Morosan & Jeong, 2008), attitude was found to be significantly associated with intentions to purchase travel online (β=0.54, p<0.001). Furthermore, it should be highlighted that attitude was the construct with the most significant impact on intentions to purchase travel online, with a substantial effect size (f^2=0.30), which demonstrates its predictive relevance.

The second and third hypotheses proposed that communicability influences intentions to purchase travel online and perceived risk. The former hypothesis was based on Morrison et al.'s (2001) findings that people were more likely to book online if they knew that many other people were doing likewise. However, this hypothesis was not supported (β=0.01, p=0.33). This result is not totally unexpected, since the influence of others to perform behaviours in volunteering settings - such as the purchase of travel online - has been found to be week or non-existent (e.g. Davis et al., 1989; Hsu & Chiu, 2004b; San Martín & Herrero, 2012; Shih & Fang, 2004). The current results support Li and Buhalis's (2006) findings that communicability is not an important factor in explaining the purchase of travel online. The latter hypothesis pertaining that communicability would reduce people's perceived risk regarding the purchase of travel online was also not supported (β= - 0.03, p=0.09).

It is possible that the influence of friends tends to diminish as the purchase of travel online gets more widespread. Indeed, communicability had a mean average of 4.15, which indicates that the vast majority has heard of or knows someone that has purchased travel online. It is most likely that communicability is important for new phenomenon. Since online travel shopping is nowadays a widespread practice, knowing that others purchase travel online does not seem to influence the purchase of travel online, nor does it reduce associated risk.

The fourth hypothesis that stated "Individual's perceived complexity of online travel shopping will be negatively related to attitude towards online travel shopping", was

supported (β= - 0.03, p<0.05). This finding is right in line with the IDT that posits that innovations that are simpler to understand will be adopted more quickly (Rogers, 1995). Purchasing travel online can be a complex process, since there are many travel suppliers online and different procedures to conclude the purchase. Internet users that feel that it is complex will have a less favourable attitude towards the purchase of travel online. However, this effect is relatively weak, consistent with the findings of other studies. In fact, research grounded on the TAM, with the perceived ease of use and perceived usefulness constructs, similar concepts to complexity and perceived relative advantages, respectively, had also concluded that perceived ease of use had a weaker effect on attitude than perceived usefulness (e.g. Bhattacherjee, 2000; Hernandez et al., 2009; Morosan & Jeong, 2008; Vijayasarathy, 2004).

It should also be stressed that the complexity of online travel shopping had an average score of 2.09 (on a scale to 1 to 5), indicating that the majority did not consider that the purchase of travel online was a complex task. Furthermore, a significant number of respondents (77%) had already purchased travel online Complexity appears to be relevant when an individual first starts a new behaviour, but after a period of time its influence becomes less significant (Vijayasarathy, 2004). These are probable explanations for why complexity plays such a small role in predicting online travel purchase intentions in this study.

Internet users' perception about the compatibility of online travel shopping appears to be a strong predictor of online travel shopping. Indeed, the fifth and sixth hypothesis predicting a relationship with attitude and intentions to purchase travel online, respectively, were supported (β= 0.47, p<0.001 and β= 0.19, p<0.001). This result suggests that people who feel that online travel shopping is compatible with their lifestyle will have a more favourable attitude towards online travel shopping and can be expected to purchase travel online more readily.

The seventh and eighth hypotheses were concerned with the role of perceived behavioural control, a construct borrowed from the TPB. The seventh hypothesis was supported by the data (β = 0.09, p<0.001), indicating that perceived behavioural control positively influences intentions to purchase travel online, echoing the

postulation of the TPB. Indeed, individuals that assess they have the capabilities and resources to purchase travel online will have higher intentions to carry out the purchase online. This conclusion is consistent with the TPB and with Li and Buhalis's (2005, 2006) studies in the online travel context, that found that Internet traveller's self-assessment of their capabilities to purchase travel online was positively associated with the likelihood of purchasing travel online. However, a different study regarding the purchase of travel online (Bigné et al., 2010) found that perceived behavioural control did not affect intentions to purchase travel online. Therefore, the results of this study help to better clarify these contradictory results, since few studies have examined the role of perceived behavioural control in the context of online travel shopping. The current finding supports the positive relationship between perceived behavioural control and intentions to purchase travel online. It should, however, be noted that this relationship is weak. Armitage and Conner (2001) had already noted that in situations where attitudes are strong, as in the case of this study, perceived behavioural control may be less predictive of intentions.

Data analysis also indicates that perceived behavioural control has a significant negative effect on perceived complexity (β = - 0.64, $p<0.001$), demonstrating that individuals who feel they had the capability and resources to purchase online will perceive online shopping as easier to use, consistent with the findings of other studies (e.g. Hernandez et al., 2009).

The ninth, tenth and eleventh hypotheses predicted that perceived relative advantages of online travel shopping would positively affect intentions to purchase travel online, attitude towards online travel shopping and trust in online shopping, respectively. Hypothesis 11, that expected a positive relationship between perceived relative advantages and trust was confirmed (β = 0.54, $p<0.001$). This was an important finding, since this relationship has never been explored in the context of online travel shopping. This means that Internet users trust in online shopping can be increased by emphasizing the perceived relative advantages of online travel shopping, since it has a large effect size on trust ($f^2 = 0.41$).

Contrary to what was expected, hypothesis 9, that established a positive relationship between perceived relative advantages and intentions to purchase travel online was not supported (β = 0.00, p=0.38). Yet, perceived relative advantages was found to have a significant effect on attitude (β = 0.26, p<0.001). These relationships were further investigated and attitude totally mediated the relationship between perceived relative advantages and intentions to purchase travel online. Therefore, the unsupported hypothesis must be analysed with caution. Indeed, not only is the total effect of perceived relative advantages on intentions to purchase travel online significant, but it is also one of its most important predictors.

Hypotheses 12 and 13 concerned the influence of perceived risk of online travel shopping on attitude and intentions to purchase travel online. The latter hypothesis was supported (β= - 0.12, p<0.001), while the former was not (β= - 0.03, p = 0.18). Although perceived risk does not affect attitude towards online shopping, it may inhibit individuals from purchasing travel online, since it negatively influences intentions.

Hypotheses 14 and 15, proposing that trust would be positively associated with attitude and negatively with perceived risk, were supported (β = 0.11, p<0.001 and β= - 0.72, p<0.001). On the other hand, hypothesis 16 was rejected (β = - 0.05, p=0.07), indicating that trust does not have an impact on intentions to purchase online. Few studies have addressed trust in the context of online travel shopping and the few that have done so reached different conclusions. The findings of the current study support the findings of Kamarulzaman (2007) and of Bigné et al. (2010) that trust influences perceived risk and attitude, but does not influence the purchase of travel online directly. However, this does not mean that trust is not important. Indeed, although trust does not directly affect intentions to purchase travel online, it has an indirect effect via perceived risk and attitude, with a total effect of 0.11.

The main aim of hypotheses 17 and 18 was to examine if individual's level of involvement with social media had an effect on intentions to purchase travel online or on perceived risk. Both hypotheses were not statistically supported (β = 0.01, p=0.27 and β = - 0.01, p=0.34), suggesting that social media involvement does not have an

impact on perceived risk neither on intentions to purchase travel online. A possible explanation for this is that travellers that purchase travel online do so mostly to save time and, therefore, even though they may use social media websites and find them interesting, they do not spend much time consuming and creating, since this can be a time consuming task. On the other hand, it may also indicate that many travellers search for travel information on travel social media websites, but then book at a traditional travel agency. This is consistent with the findings of other studies that examined the influence of the use of the Internet as a travel information source on the purchase of travel online. For instance, Jun et al. (2007) found that respondents were more likely to use the Internet for their travel information search, but then purchase offline. In a similar vein, Jensen (2012) found a weak relationship between online search and online purchasing and claimed that online travel search may not necessarily be followed by an online travel purchase.

The fact that social media involvement is not related to perceived risk in online shopping was also surprising, since more involved consumers are more prone to take risks (Venkatraman, 1989). Kamarulzaman (2007) also argues that travellers more involved with online travel shopping perceive less risk in relation to this medium. However, this could also mean that a high involvement with online travel shopping does not necessarily imply a high involvement with social media.

Finally, by exploring the relationships between the control variables and intentions to purchase travel online, this study found that males have higher intentions to purchase travel online, supporting Law and Bai's (2008) study, but contradicting the majority of studies that have concluded that gender does not affect the purchase of travel online (e.g. Beldona et al., 2011; Kim & Kim, 2004; Li & Buhalis, 2006; Morrison et al., 2001; Weber & Roehl, 1999; Wolfe et al., 2005). Moreover, the empirical data has revealed that individuals with higher education level are more likely to purchase travel online, supporting the results obtained in studies conducted by other researchers (Heung, 2003; Kamarulzaman, 2010; Kim & Kim, 2004; Law & Bai, 2008; Law et al., 2004; Lee et al., 2007; Morrison et al., 2001; Weber & Roehl, 1999). Consistent with other empirical studies (e.g. Kim & Kim, 2004; Li & Buhalis, 2006; Weber & Roehl, 1999), the results also evidence that Internet users between 30 and

39 years of age have higher intentions to purchase travel online when compared with users in the age group 18-29 and also in the group with ages over 50.

Analysing the results obtained from the hypotheses testing and also considering the total effects of the constructs, the following conclusions can be drawn:

- Attitude towards online travel shopping, compatibility, perceived behavioural control and perceived risk all have direct impacts on intentions to purchase travel online. Complexity and trust also affect intentions, but indirectly.
- Communicability and social media involvement do not influence intentions to purchase travel online.
- Attitude towards online travel shopping has the strongest direct impact on intentions to purchase online (0.54), followed by compatibility (0.19) and, with a negative impact, perceived risk (- 0.12).
- Analysing the total effects, perceived relative advantages has the third most significant effect on intentions to purchase travel online (0.19).
- Attitude towards online travel purchasing is predicted by compatibility (0.47), perceived relative advantages (0.26), trust (0.11) and complexity (-0.05), which together explain almost 62% of its variance. However, perceived risk does not have a significant impact on attitude.
- Perceived behavioural control has a strong negative impact on complexity (-0.64) and a very small impact on intentions to purchase travel online (0.09).
- Perceived relative advantage has a strong and significant impact on trust (0.54).
- Trust negatively affects perceived risk (- 0.72).
- Age, gender and education influence intentions to purchase travel online. Men, people with higher education levels and people between the age of 30 and 39 present higher intentions to purchase travel online.

6.3. RESEARCH CONTRIBUTIONS AND IMPLICATIONS

The results of this research have both theoretically and managerial contributions. Indeed, testing the proposed model with its many hypotheses and multidimensional constructs makes it possible to draw several conclusions and present the various implications. These implications will be presented and discussed in the following sections.

6.3.1. THEORETICAL CONTRIBUTIONS

From a theoretical perspective, this study has made several advances. First, because it examines online travel shopping based on a holistic approach, integrating several theoretical models and validates the integration of these theories in the context of online travel shopping. It confirms attitude and perceived behavioural control as predictors of intentions as postulated in the TRA (Fishbein & Ajzen, 1975), and TPB (Ajzen, 1991), respectively. The study shows that Roger's IDT (1995) can be used to explain intentions to purchase travel online, since the innovations characteristics of relative advantages, compatibility and complexity are valid predictors of intentions to purchase travel online. The results also indicate that the IDT is superior to TAM, since adding compatibility increases the explained variance. More, the study demonstrates that perceived relative advantages and complexity (similar to perceived usefulness and perceived ease of use, respectively, from the TAM) are important predictors of attitude towards online shopping. By integrating all these theories and adding other relevant constructs, a holistic view was obtained, providing more information than studies with fragmented results.

Second, at a time when Internet use and online travel shopping are more prevalent, factors such as perceived behavioural control or perceived complexity with online travel shopping play a small role. What really matters for Internet users to purchase travel online is having a favourable attitude towards online travel shopping and finding it compatible with their lifestyle. Furthermore, individuals that perceive the advantages of purchasing travel online, namely time saving, convenience and financial aspects, will be more likely to purchase travel online. It is also interesting to note that even though trust and security in computer systems are increasing

(Bogdanovych et al., 2006), perceived risk is still an important determinant of intentions to purchase travel online.

Third, the current study proposes a set of indicators to measure social media involvement, adding this new concept to the body of tourism literature and relating it the purchase of travel online. From a theoretical perspective, it seemed reasonable to expect that a higher involvement with social media would lead to higher intentions to purchase travel online. Yet, the data in this study suggests that there is no relationship. It should be noted that hypotheses that are not confirmed convey important findings. As Kerlinger (1986) states "negative findings are as important as positive ones, since they cut down ignorance and sometimes point up fruitful hypotheses and lines of investigation" (p.23).

Fourth, considering that research with multidimensional constructs using PLS path modelling is still limited (Wetzels et al., 2009), this study fills this gap by using multidimensional constructs to operationalize three constructs. Using multidimensional constructs enhance the understanding of the overall construct (Law et al., 1998), by providing detail on different facets of the construct (Petter et al., 2007). In particular:

- The empirical results have shown that perceived behavioural control can be conceptualized as a second order construct, formed by two distinct dimensions: self-efficacy and controllability. Although Ajzen (2002b) recommends decomposing perceived behavioural control in this manner, no study focusing on online travel purchasing intentions had conceptualized perceived behavioural control in this way.
- This research proposed a formative and multidimensional construct termed social media involvement to measure Internet users' involvement with social media for travel purposes. It was empirically proven that social media involvement can be measured by several distinct dimensions, namely interest in social media, social media consumption, social media creation and social media's perceived playfulness.

- This study has shown that perceived relative advantages can be operationalized as a multidimensional construct, composed by convenience, time saving, financial advantages, enjoyment and product variety. Each dimension represents a facet of the advantages of purchasing travel online, identified in the literature review.

Fifth, although not a part of the main aim of this research, other findings have been made concerning the role of several constructs that were unexplored or had contradictory results. For instance, only one study (Bigné et al., 2010) considered perceived behavioural control and, contrary to what the TPB posits, it found that it did not affect intentions to purchase travel online. However, this study's results are consistent with the TPB, since they show that perceived behavioural control affects intentions to purchase travel online. The results have also revealed that age, gender and education level affect intentions to purchase travel online, adding new evidence on previous contradictory results.

Finally, the results of this study can serve as guidelines for future research concerning the purchase of travel online and the use of social media for travel purposes or research applying the TRA, the TPB, the TAM or the IDT.

6.3.2. PRACTICAL IMPLICATIONS

The results have several practical implications and therefore this section discusses these implications and provides recommendations. While the implications are more obvious for online travel providers (online travel agencies, online suppliers, etc.), the results also are relevant for traditional offline travel agencies that want to prevent their customers from shifting to online stores.

It is evident that attitude towards online travel shopping is the most relevant determinant of intentions to purchase travel online. Therefore, online travel marketers need to pay close attention to the factors that contribute to a favourable attitude. This study has evidenced some of those factors, namely trust, complexity and perceived relative advantages. Therefore:

a) Although complexity plays a small role in forming attitude in our sample, online travel agents should not ignore basic principles to diminish potential buyers' complexity. Powley et al. (2004) also recommend having a simple and clean Web design, with simple choices for the user to make. Thus, designing websites easy to use, with easy check out procedures and updated information are important aspects in order to reduce perceived complexity with online travel shopping.

b) Trust in online travel shopping must be increased. Fam et al. (2004) found that in order to achieve this, providers should offer a warranty of refund to consumers, reassure that the information provided will remain confidential and private, provide formal guarantees of service and/or products, inform if the travel service is available at the time of purchase and welcome feedback and comments. Providing explanations of all the costs involved, offering reliable security measures, no disclosure of credit card details, using the latest encryption technology, explaining how the information collected will be used, providing a functional navigation and having a well-designed website are other actions that can increase trust in online travel shopping (Austin, Ibeh, & Yee, 2006; Chen, 2006; Kim et al., 2011; Wen, 2010).

c) Since perceived relative advantages is a significant predictor of attitude towards online travel shopping, online travel providers need to emphasize the advantages of purchasing travel online, bearing in mind the advantages that potential buyers most value. The results of the current study have revealed that financial advantages are viewed as a major advantage. Therefore, online travel providers should guarantee the lowest price and offer other financial advantages such as discounts, coupons and other financial incentives. For example, Intercontinental Hotels Group guarantee that they have the lowest price, by offering the first night for customers that find a lower price elsewhere. This is even more important considering that travellers have pointed out the lack of confidence that they are getting a good deal as one of the main reasons why they experience frustration online (PhocusWright, 2012). Another example is Hotels.com, with a loyalty program that offers a

free night for customers who book 10 nights on their website. These are just some of the many examples that online travel suppliers can engender to highlight their financial advantages.

The results support that convenience and time saving are also important advantages for travellers to purchase travel online. Online travel providers should provide procedures that are convenient to travellers such as easy payment features or personalized information based on past behaviours. On the other hand, traditional travel agencies can also gain from knowing that convenience and time saving are important to travellers. They can strive to satisfy these needs by, for example, making relevant bits of scattered information convenient and easy to retrieve (PhocusWright, 2012), providing the option to buy different travel products (booking a room, a flight and renting a car, for example) on the same website or making suggestions based on customers' past bookings. Convenience is closely related to physical effort and consumers perceive the reduction in the physical efforts of travel shopping as an important advantage of electronic shopping (Christou & Kassianidis, 2003). Therefore, brick and mortar travel agencies could offer to meet customers at their convenience, for example, at their workplace.

The second most important predictor of intentions to purchase travel online in the model is the Internet user's compatibility. As Vijayasarathy (2004) points out, individuals that find online travel shopping compatible with their lifestyles may be "time starved and constantly exploring ways to reduce the time to complete various tasks to manage their busy schedules" (p.757). This is further reinforced by the results obtained in perceived relative advantages, as time saving and convenience were found to be significant advantages of purchasing travel online. With hundreds of options resulting from an online search, travellers are often overloaded and feel frustrated (PhocusWright, 2012). Therefore, online travel providers should take advantage of technological advances, by analysing travellers' past behaviour to deliver personalized results and offer relevant promotions. Furthermore, considering that one third of mobile users are planning on the go (Koumelis, 2012), online travel

providers should provide apps for mobile devices and tablets to purchase travel, with other features that facilitate convenience, such as boarding pass or check in.

The results also support the important role that perceived risk plays in purchasing travel online. Therefore, online travel providers must provide effective ways to reduce users' perceived risk to enhance Internet users' willingness to purchase travel online. A strong firm reputation is important to reduce the risk associated with online shopping (Cases, 2002; Eastlick et al., 2006; Kim et al., 2009). Consequently, online travel providers should strive to build a good reputation, by, for example, cooperating with partners who already have a good reputation (Grabner-Kraeuter, 2002), but also by providing fulfilling and satisfying transactions. Other risk reduction strategies are to provide travellers with information on their consumer rights and personal data, having a security approval symbol (e.g. VeriSign), provide contact information, offer money back guarantees, and have high security standards that should be communicated to consumers, as well as clear privacy information protecting consumers' personal information (Bigné et al., 2010; Cases, 2002; Kim et al., 2009; Lin et al., 2009; Powley et al., 2004; Vijayasarathy, 2004).

Recommendations of family and friends were also found to be important to reduce risk associated to online shopping (Kim et al., 2009). Online travel providers could offer online travel purchasers incentives for recommendations to friends. Furthermore, they should listen and resolve customers' complaints before negative feedback spreads.

The current study found that perceived behavioural control, composed of self-efficacy and controllability, directly and indirectly influences Internet users' intentions to purchase travel online. Regarding self-efficacy of purchasing travel online, once again, basic quality design of the website is of paramount importance to inspire Internet user's confidence. Online travel providers could also provide a visual demonstration on how to purchase on their websites, in order to improve individual's proficiency in purchasing travel online (Li & Buhalis, 2005). Having the website available in other languages other than the language of the travel provider so that the customers clearly understand the purchase process in their native language may also contribute to

assure travellers' confidence in purchasing travel online. Another facet of perceived behavioural control is controllability, which is related to having the resources available to purchase travel online. An important resource to purchase online is having the financial means for payment, usually a credit card. Therefore, online travel suppliers should offer more diverse payment options, such as PayPal[18] or payment references that can be paid at ATM machines or by Internet Banking. These payment options can also diminish the perceived risk usually associated with giving out credit card information online, since online purchasers are concerned about transmitting credit card information over the Internet (Vijayasarathy, 2004).

The fact that social media involvement is not related to intentions to purchase travel online can perhaps mean that online travel and tourism marketers advertising efforts on travel social media websites are not effective. In that case, they need to find alternative ways to advertise and enhance online travel purchasing. For example, the results show that male Internet users with higher education levels, between 30 and 39 years old, have higher online purchase intentions. This knowledge can be used to target this market segment, for example, by advertising on travel websites or magazines aimed at this population or sponsor conferences, since they are usually attended by people with higher education levels.

6.4. LIMITATIONS AND FUTURE RESEARCH

Although the proposed model has been developed on a rich theoretical background, as in any research project, this study has limitations. The limitations are now presented along with future research directions, since some of the proposed future work is inspired by the limitations.

First, the data used in this study were based on a convenience sample containing an over representation of the Portuguese population. Therefore, generalisation of the results must be made with caution. The replication of this study with a more balanced proportion of Internet users regarding the country of residence would be desirable.

[18] PayPal allows any business or consumer with an email address to securely, conveniently and cost-effectively send and receive payments online.

Second, the study used a quantitative approach to examine the determinants of intentions to purchase travel online. A research using also a qualitative approach could shed new light on the understanding of the research hypotheses. For instance, it may be useful to better understand why social media involvement does not affect intentions to purchase travel online.

Another limitation of this study is related to the definition of online travel purchases. In this study, the definition considered is broad, as it includes the purchase of airline tickets, cruises, holiday packages and hotel reservations. However, a few studies (Beldona et al., 2005; Bogdanovych et al., 2006; Kamarulzaman, 2007) have found that travellers usually purchase less complex travel online and prefer booking complex travel from a travel agent, reinforcing the idea that low complexity travel products are best suited to be sold online. Therefore, the results obtained in this study may differ if applied only to low complexity travel or to high complexity travel. Thus, further studies should study online purchasing motivations considering distinct travel product categories, rather than considering travel as one category.

The fourth limitation is related with the possibility that many Internet users did not fill out the questionnaire because they may have believed that since it was about the purchase of travel online, it was specifically for people who had already purchased travel online in the past.

Another limitation of this study was that it did not consider cross cultural issues. For example, Heung's study (2003) concluded that online travel purchasers were more likely to be from Western countries. In a similar vein, Law, Bai, and Leung (2008) found that Americans had a higher propensity to purchase travel online than the Chinese. Future research should study which factors in the proposed model are culture specific and which are cross-cultural. Studying the differences across nations is important in deciding which marketing elements may be standardized globally (Pizam, 1999).

The data was analysed using PLS equation modelling on the total sample. However, researchers have pointed out that this assumes that the data are homogenous, which can be unrealistic (Ringle, Sarstedt, & Schlittgen, 2010; Sarstedt, 2008).Therefore,

future research may use multi-group analyses to identify if there is heterogeneity or segment level differences. In SmartPLS this can be done with the finite mixture PLS (FIMIX-PLS) tool. This approach identifies different segments and their estimates for the relationships between constructs in the structural model (Ringle, 2006). A better understanding of the factors that influence intentions to purchase travel online in different segments enhances the possibilities of developing online marketing strategies that meet the needs of each segment.

Given attitude's importance in explaining intentions to purchase travel online, it is essential to examine the factors affecting attitude formation, besides the ones considered in this study. For example, prior experience with online travel purchases (e.g. Morosan & Jeong, 2006), perceived playfulness (e.g. Morosan & Jeong, 2008), enjoyment (e.g. Hassanein & Head, 2007) and personal innovativeness (e.g. Limayem et al., 2000) have been found to affect attitude towards online shopping.

In a similar vein, although the antecedents of intentions to purchase online explained a substantial amount of its variance, there may be other important factors which have not been included in the model, representing an opportunity for further research. For instance, satisfaction with previous online purchases (Kim et al., 2006) and consumer shopping orientations (Jensen, 2012) may explain intentions to purchase travel online.

Conceptually and empirically there is much work to be carried out with the concept of social media involvement. This study has demonstrated that it can be conceptualized as a multidimensional construct and that it has no effect on intentions to purchase travel online. Future research could examine if there are cross cultural differences regarding social media involvement, to add further insights to Gretzel et al.'s (2008) study that found that there are differences in terms of social media use for travel purposes among the four countries considered in their study (United States, United Kingdom, Germany, and China).

Social media involvement could also be used as a segmentation criterion, followed by a further analysis of the characteristics of each segment, such as age, gender, education level or online travel experience. A deeper understanding of the

characteristics of social media users for travel purposes, such as which websites they use and the motives of their interaction will help travel providers assess the revenue opportunities that the various social media channels might provide (Noone, McGuire, & Niemeier, 2011). On the other hand, segmentation would allow travel marketers to personalize and cater for travellers with different levels of involvement accordingly. For example, travellers with a high social media involvement level are more likely to create UGC and can highly influence others. Therefore, travel marketers need to carefully nurture this segment, as they often act as advocates of a brand or an online travel provider.

Another interesting line of investigation might be to verify whether the relationships exhibited in the model hold for other products or services. Vijayasarathy (2002) reported that consumers' intentions to purchase online was higher for intangible products than for tangible ones. In a similar vein, Phau and Poon (2000) also found that cheaper and intangible products and services that are often purchased are more likley to be purchased online. Therefore, replicating the model for other products and/or services would be worthwhile.

Finally, there has been strong evidence that supports the link between intended and actual behaviour, as discussed previously in chapter 2. Yet, in the context of online shopping, this relationship has been largely overlooked. In fact, Cao and Mokhtarian (2005) analysed 65 empirical studies of online shopping behaviour and concluded that most of the studies either included online shopping intentions or actual online shopping behaviour. Future research should assert this relationship between intentions to purchase travel online and actual behaviour, since this relationship has never been examined in the travel context.

In spite of several limitations, academic researchers, tourism practitioners and marketers can take advantage of this study to better understand the adoption of online travel shopping and consequently improve online travel distribution strategies. The recommendations for further investigations also provide researchers with challenging directions for future research.

6.5. FINAL REMARKS

This thesis presented and tested a model to examine which factors influence Internet users' intentions to purchase travel online, grounded on well-known consumer behaviour models and on prior empirical research addressing online travel shopping. The model has merit since it explains over 66.8% of the variance of Intentions to Purchase Travel Online. Therefore, there is good evidence that integrating the IDT, with the TPB, the TRA and the TAM provides an efficient approach for examining travellers' intentions to purchase travel online.

The results indicate that intentions to purchase travel online is partially determined by attitude towards online shopping, which is influenced by perceived relative advantages of online travel shopping and trust in online travel shopping. The second most important predictor of intentions to purchase travel online is compatibility, an innovation characteristic from Roger's (1995) IDT. Finally, even though online shopping is nowadays a common practice, perceived risk continues to negatively affect intentions to purchase travel online.

The most puzzling and striking finding of this study was that Internet users more involved with social media for travel purposes did not have higher intentions to purchase travel online.

Given the importance of online travel shopping and its economic value, it is of paramount importance to understand which factors influence consumers to purchase travel online (Brown et al., 2007; Kah et al., 2008). It is believed that this study has provided a valuable contribution to this understanding and has useful insights for researchers and practitioners.

REFERENCES

Agarwal, R., & Prasad, J. (1998). A conceptual and operational definition of personal innovativeness in the domain of information technology. *Information Systems Research, 9*(2), 204-215.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), *Action-control: From cognition to behavior* (pp. 11-39). Heidelberg, Germany: Springer.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211.

Ajzen, I. (2002a). *Constructing a TpB Questionnaire: Conceptual and Methodological Considerations*. Working Paper. University of Massachusetts. Amherst. Retrieved from http://socgeo.ruhosting.nl/html/files/spatbeh/tpb.measurement.pdf

Ajzen, I. (2002b). Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior. *Journal of Applied Social Psychology, 32*(4), 665-683.

Ajzen, I. (2011a). Behavioral interventions: Design and evaluation guided by the theory of planned behavior. In M. M. Mark, S. I. Donaldson & B. C. Campbell (Eds.), *Social psychology for program and policy evaluation* (pp. 74-100). New York, NY: Guilford.

Ajzen, I. (2011b). The theory of planned behavior: Reactions and reflections. *Psychology & Health, 26*, 1113-1127.

Ajzen, I., Czasch, C., & Flood, M. G. (2009). From intentions to behavior: Implementation intention, commitment, and conscientiousness. *Jounal of Applied Social Psychology, 39*, 1356-1372.

Ajzen, I., & Fishbein, M. (1973). Attitudinal and normative variables as predictors of specific behavior. *Journal of Personality and Social Psychology, 27*, 41-57.

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*(5), 888-918.

Ajzen, I., & Fishbein, M. (1980). Understanding Attitudes and Predicting Social Behavior: Englewood Cliffs, NJ: Prentice-Hall.

Anckar, B. (2003). Consumer intentions in terms of electronic travel distribution: implications for future market structures. *E-service Journal, 2*(2), 68-86.

Anckar, B., & Walden, P. (2001). Self-booking of high-and low-complexity travel products: exploratory findings. *Information Technology & Tourism, 4*(3/4), 151-165.

Andreev, P., Heart, T., Maoz, H., & Pliskin, N. (2009). *Validating Formative Partial Least Squares (PLS) Models: Methodological Review and Empirical Illustration*. Paper presented at the Thirtieth International Conference on Information Systems, Phoenix, Arizona

Armitage, C. J., & Conner, M. (1999). The theory of planned behaviour: Assessment of predictive validity and perceived control. *British Journal of Social Psychology, 38*(1), 35-54.

Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology, 40*(4), 471-499.

Arsal, I., Backman, S., & Baldwin, E. (2008). Influence of an Online Travel Community on Travel Decisions. In P. O'Connor, W. Hopken & U. Gretzel (Eds.), *Information and Communication Technologies in Tourism 2008* (pp. 82-93). Vienna,Austria: Springer.

Austin, N., Ibeh, K., & Yee, J. C. C. (2006). Consumer Trust in the Online Travel Marketplace. *Journal of Internet Commerce, 5*(2), 21-39.

Bagozzi, R. P., & Yi, Y. (1988). On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Science, 16*(1), 74-94.

Bai, B., Hu, C., Elsworth, J., & Countryman, C. (2004). Online Travel Planning and College Students. *Journal of Travel & Tourism Marketing, 17*(2-3), 79-91.

Bai, B., Law, R., & Wen, I. (2008). The impact of website quality on customer satisfaction and purchase intentions: Evidence from Chinese online visitors. *International Journal of Hospitality Management, 27*(3), 391-402.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice Hall.

Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to causal modeling: personal computer adoption and use as an illustration. *Technology Studies, 2*(2), 285-309.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Bart, Y., Shankar, V., Sultan, F., & Urban, G. L. (2005). Are the drivers and role of online trust the same for all web sites and consumers? A Large-scale exploratory empirical study. *Journal of Marketing, 69*(October), 133-152.

Bauer, R. A. (1960). Consumer behavior as risk taking. In R. Hancock (Ed.), *Dynamic marketing for a changing world* (pp. 389-398). Chicago, IL: American Marketing Association.

Beale, D., & Manstead, A. (1991). Predicting mothers' intentions to limit frequency of infants' sugar intake: Testing the theory of planned behavior. *Journal of Applied Social Psychology, 21*(5), 409-431.

Becker, J.-M., Klein, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: Guidelines for using reflective-formative type models. *Long Range Planning, 45*(5-6), 359-394.

Beldona, S., Morrison, A., & O'Leary, J. (2005). Online shopping motivations and pleasure travel products: a correspondence analysis. *Tourism Management, 26*(4), 561-570.

Beldona, S., Racherla, P., & Mundhra, G. D. (2011). To buy or not to buy: Indian consumers' choice of online versus offline channels for air travel purchase. *Journal of Hospitality Marketing & Management, 20*(8), 831-854.

Bell, J. (2010). *Doing Your Research Project: A guide for first-time researchers in education, health and social science* (5th ed.). Berkshire, England: McGraw-Hill.

Bellman, S., Lohse, G. L., & Johnson, E. J. (1999). Predictors of online buying behavior. *Communications of the ACM, 42*(12), 32-38.

Bennett, R. (1997). Communicator credibility, personality factors and customer responses to comparative advertising claims. *Marketing Intelligence & Planning, 15*(2), 85-96.

Bentler, P. M., & Chou, C.-P. (1987). Practical issues in structural modeling. *Sociological Methods & Research, 16*(1), 78-117.

Bhattacherjee, A. (2000). Acceptance of e-commerce services: the case of electronic brokerages. *IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans, 30*(4), 411-420.

Bigné, E., Sanz, S., Ruiz, C., & Aldás, J. (2010). Why Some Internet Users Don't Buy Air Tickets Online. In U. Gretzel, R. Law & M. Fuchs (Eds.), *Information and Communication Technologies in Tourism 2010* (pp. 209-221). Vienna, Austria: Springer.

Biswas, D., & Biswas, A. (2004). The diagnostic role of signals in the context of perceived risks in online shopping: do signals matter more on the web? *Journal of Interactive Marketing, 18*(3), 30-45.

Blackshaw, P., & Nazzaro, M. (2006). *Consumer-generated media (CGM) 101: Word-of-mouth in the age of the web-fortified consumer*. New York, NY: Nielsen BuzzMetrics.

Bogdanovych, A., Berger, H., Simoff, S., & Sierra, C. (2006). Travel agents vs. online booking: Tackling the shortcomings of nowadays online tourism portals. In M. Hitz, M. Sigala & J. Murphy (Eds.), *Information and Communication Technologies in Tourism 2006* (pp. 418-428). Vienna, Austria: Springer

Bourlakis, M., Papagiannidis, S., & Fox, H. (2008). e-Consumer behaviour: Past, present and future trajectories of an evolving retail revolution. *International Journal of E-Business Research, 4*(3), 64-76.

Brown, M. R., Muchira, R., & Gottlieb, U. (2005). Privacy Concerns and Purchase of Travel Product Online. *Information and Communication Technologies in Tourism 2005*, 285-295.

Brown, M. R., Muchira, R., & Gottlieb, U. (2007). Privacy Concerns and the Purchasing of Travel Services Online. *Information Technology & Tourism, 9*(1), 15-25.

Buhalis, D. (1998). Strategic use of information technologies in the tourism industry. *Tourism Management, 19*(5), 409-421.

Buhalis, D. (2003). *eTourism: Information technology for strategic tourism management*. London: Pearson

Buhalis, D. (2004). eAirlines: strategic and tactical use of ICTs in the airline industry. *Information & Management, 41*(7), 805-825.

Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research. *Tourism Management, 29*(4), 609-623.

Burnkrant, R. E., & Cousineau, A. (1975). Informational and Normative Social Influence in Buyer Behavior. *Journal of Consumer Research, 2*, 206-215.

Byrne, B. M. (2011). *Structural Equation Modeling With Mplus: Basic Concepts, Applications, and Programming*. New York, NY: Routledge.

Cao, X., & Mokhtarian, P. L. (2005). *Intended and Actual Adoption of Online Purchasing: A Brief Review of Recent Literature*. California: University of California Transportation Center.

Card, J. A., Chen, C.-Y., & Cole, S. T. (2003). Online Travel Products Shopping: Differences between Shoppers and Nonshoppers. *Journal of Travel Research, 42*(2), 133-139.

Carter, L., & Belanger, F. (2004). Citizen adoption of e-government initiatives *Proceedings of 37th Annual Hawaii International Conference on System Sciences, IEEE*. Big Island, Hawaii.

Cases, A. S. (2002). Perceived risk and risk-reduction strategies in Internet shopping. *The International Review of Retail, Distribution and Consumer Research, 12*(4), 375-394.

Chen, C. (2006). Identifying significant factors influencing consumer trust in an online travel site. *Information Technology & Tourism, 8*(3/4), 197-214.

Chen, L., Gillenson, M. L., & Sherrell, D. L. (2002). Enticing online consumers: an extended technology acceptance perspective. *Information & Management, 39*(8), 705-719.

Cheung, C. M., Chan, G. W., & Limayem, M. (2005). A Critical Review of Online Consumer Behavior: Empirical Research *Journal of Electronic Commerce in Organizations, 3*(4), 1 - 19.

Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2001). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing, 77*(4), 511-535.

Chin, W. (1997). Overview of the PLS Method Retrieved November 13, 2012, from http://disc-nt.cba.uh.edu/chin/PLSINTRO.HTM

Chin, W. W. (1998a). Commentary: Issues and opinion on structural equation modeling. *MIS Quarterly, 22*(1), vii–xvi.

Chin, W. W. (1998b). The partial least squares approach for structural equation modeling. In G. A. Marcoulides (Ed.), *Modern methods for business research.Methodology for business and management* (pp. 295-336). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Chin, W. W. (2010a). How to write up and report PLS analyses. In V. E. Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of Partial Least Squares* (pp. 655-690). Berlin: Springer.

Chin, W. W. (2010b). How to Write Up and Report PLS Analyses. In V. E. Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of Partial Least Squares: Concepts, Methods and Applications in Marketing and Related Fields* (pp. 655-690). Berlin: Springer.

Chin, W. W., & Newsted, P. R. (1999). Structural equation modeling analysis with small samples using partial least squares. In R. H. Hoyle (Ed.), *Statistical strategies for small sample research* (Vol. 2, pp. 307-342). Thousand Oaks, CA: Sage.

Chin, W. W., Peterson, R. A., & Brown, S. P. (2008). Structural Equation Modeling in Marketing: Some Practical Reminders. *The Journal of Marketing Theory and Practice, 16*(4), 287-298.

Cho, J. (2004). Likelihood to abort an online transaction: influences from cognitive evaluations, attitudes, and behavioral variables. *Information & Management, 41*(7), 827-838.

Cho, Y. C., & Agrusa, J. (2006). Assessing Use Acceptance and Satisfaction Toward Online Travel Agencies. *Information Technology & Tourism, 8*(3), 179-195.

Choudhury, V., & Karahanna, E. (2008). The relative advantage of electronic channels: a multidimensional view. *Management Information Systems Quarterly, 32*(1), 179.

Christou, E., Avdimiotis, S., Kassianidis, P., & Sigala, M. (2004). Examining the Factors Influencing the Adoption of Web-Based Ticketing: Etix and its Adopters. In A. J. Frew (Ed.), *Information and Communication Technologies in Tourism 2004* (pp. 129-138). Vienna, Austria: Springer

Christou, E., & Kassianidis, P. (2003). Consumer's Perceptions and Adoption of Online Buying for Travel Products. *Journal of Travel & Tourism Marketing, 12*(4), 93-107.

Chung, J. Y., & Buhalis, D. (2008a). Information needs in online social networks. *Information Technology & Tourism, 10*, 267-281.

Chung, J. Y., & Buhalis, D. (2008b). Web 2.0: A study of online travel community. In P. O'Connor, W. Hopken & U. Gretzel (Eds.), *Information and Communication Technologies in Tourism 2008* (pp. 70-81). Vienna, Austria: Springer.

Churchill, G. A. (1979). A Paradigm for Developing Better Measures of Marketing Constructs. *Journal of Marketing Research*, 64-73.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale: Lawrence Erlbaum Associates.

Cohen, J. (1992). A Power Primer. *Psychological Bulletin, 112*(1), 155-159.

Collis, J., & Hussey, R. (2003). *Business Research: A practical guide for undergraduate and postgraduate students*. Basingstroke, UK: Palgrave Macmillan.

Compete Incorporated. (2007). Compete Incorporated. *Consumer Generated Content: Learning form the Innovators* Retrieved August 7, 2012, from http://www.competeinc.com/research/newsletters/traveltsrends_conumer_generated_travel_content/

ComScore. (2007). Online Consumer-Generated Reviews Have Significant Impact on Offline Purchase Behavior Retrieved April 17, 2012, from http://www.comscore.com/por/Insights/Press_Releases/2007/11/Online_Consumer_Reviews_Impact_Offline_Purchasing_Behavior

ComScore. (2013). U.S. Consumer Online Travel Spending Surpasses $100 Billion for First Time in 2012 Retrieved April 15, 2013, from http://www.comscore.com/Insights/Press_Releases/2013/2/U.S._Consumer_Online_Travel_Spending_Surpasses_100_Billion_for_First_Time_in_2012

Connolly, D. J., Olsen, M. D., & Moore, R. G. (1998). The internet as a distribution channel. *Cornell Hotel and Restaurant Administration Quarterly, 39*(4), 42-54.

Constantinides, E. (2004). Influencing the online consumer's behavior: the Web experience. *Internet Research, 14*(2), 111-126.

Cook, C., Heath, F., & Thompson, R. L. (2000). A Meta-Analysis of Response Rates in Web- or Internet-Based Surveys. *Educational and Psychological Measurement, 60*(6), 821-836.

Corbitt, B. J., Thanasankit, T., & Yi, H. (2003). Trust and e-commerce: a study of consumer perceptions. *Electronic Commerce Research and Applications, 2*(3), 203-215.

Correa, T., Hinsley, A. W., & Zuniga, H. G. (2010). Who interacts on the Web?: The intersection of users' personality and social media use. *Computers in Human Behavior, 26*(2), 247-253.

Corritore, C. L., Kracher, B., & Wiedenbeck, S. (2003). On-line trust: concepts, evolving themes, a model. *International Journal of Human-Computer Studies, 58*(6), 737-758.

Couper, M. P. (2000). Web Surveys: A Review of Issues and Approaches. *The Public Opinion Quarterly, 64*(4), 464-494.

Cox, C., Burgess, S., Sellitto, C., & Buultjens, J. (2009). The Role of User-Generated Content in Tourists' Travel Planning Behavior. *Journal of Hospitality Marketing & Management, 18*(8), 743-764.

Cox, D. F., & Rich, S. U. (1964). Perceived Risk and Consumer Decision Making - The Case of Telephone Shopping. *Journal of Marketing Research, 1*(November), 32 - 39.

Cronbach, L. J. (1951). Coefficient Alpha and the Internal Structure of Tests. *Psychometrika, 16*(3), 297-334.

Davis, F. D. (1985). *A technology acceptance model for empirically testing new end-user information systems: Theory and results.* Doctoral Dissertation, Sloan School of Management, Massachusetts Institute of Technology.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly, 13*(3), 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management Science, 35*(8), 982-1003.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and Intrinsic Motivation to Use Computers in the Workplace. *Journal of Applied Social Psychology, 22*(14), 1111-1132.

Dennis, C., Merrilees, B., Jayawardhena, C., & Wright, L. T. (2009). E-consumer behaviour. *European Journal of Marketing, 43*(9/10), 1121-1139.

Devaraj, S., Fan, M., & Kohli, R. (2002). Antecedents of B2C Channel Satisfaction and Preference: Validating e-Commerce Metrics. *Information Systems Research, 13*(3), 316-333.

Diamantopoulos, A., Riefler, P., & Roth, K. P. (2008). Advancing formative measurement models. *Journal of Business Research, 61*(12), 1203-1218.

Diamantopoulos, A., & Siguaw, J. A. (2006). Formative Versus Reflective Indicators in Organizational Measure Development: A Comparison and Empirical Illustration. *British Journal of Management, 17*(4), 263-282.

Diamantopoulos, A., & Winklhofer, H. M. (2001). Index Construction with Formative Indicators: An Alternative to Scale Development. *Journal of Marketing Research*, 269-277.

Durrheim, K., & Painter, D. (2008). Collecting Quantitative Data: Sampling and Measuring. In M. T. Blanche, K. Durrheim & D. Painter (Eds.), *Research in Practice: Applied Methods for the Social Sciences* (pp. 131-159). Cape Town, South Africa: Juta and Company Ltd.

Eastlick, M., Lotz, S., & Warrington, P. (2006). Understanding online B-to-C relationships: An integrated model of privacy concerns, trust, and commitment. *Journal of Business Research, 59*(8), 877-886.

eMarketer. (2012). Online as a percentage of total travel sales to outrank Asia-Pacific in 2013 Retrieved April 15, 2013, from http://www.emarketer.com/Article/Online-Travel-Sales-Explode-Latin-America/1009493

Engel, J. F., Blackwell, R. D., & Miniard, P. W. (1995). *Consumer behavior* (8th ed.). Fort Worth, TX: Dryden.

Fairlie, R. (2010). PCMAG.COM. *How Travel Sites Exploit Social Media* Retrieved April 17, 2012, from http://www.pcmag.com/article2/0,2817,2365567,00.asp

Fam, K. S., Foscht, T., & Collins, R. D. (2004). Trust and the online relationship—an exploratory study from New Zealand. *Tourism Management, 25*(2), 195-207.

Fesenmaier, D. R., & Cook, S. D. (2009). Travelers Use of the Internet. Washington: U.S. Travel Association.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Fodness, D., & Murray, B. (1997). Tourist Information Search. *Annals of Tourism Research, 24*(3), 503-523.

Fornell, C., & Bookstein, F. L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research, 19*(4), 440-452.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research, 18*(1), 39-50.

Forsythe, S. M., & Shi, B. (2003). Consumer patronage and risk perceptions in Internet shopping. *Journal of Business Research, 56*(11), 867-875.

Fotis, J., Buhalis, D., & Rossides, N. (2012). Social media use and impact during the holiday travel planning process. In M. Fuchs, F. Ricci & L. Cantoni (Eds.), *Information and Communication Technologies in Tourism 2012* (pp. 13-24). Vienna, Austria: Springer.

Frew, A. J. (2000). Information and communications technology research in the travel and tourism domain: Perspective and direction. *Journal of Travel Research, 39*(2), 136-145.

Gallagher, D., Ting, L., & Palmer, A. (2008). A journey into the unknown; taking the fear out of structural equation modeling with AMOS for the first-time user. *The Marketing Review, 8*(3), 255-275.

Garín-Muñoz, T., & Pérez-Amaral, T. (2011). Internet usage for travel and tourism: the case of Spain. *Tourism Economics, 17*(5), 1071-1085.

Garson, D. G. (2012). *Partial Least Squares: Regression and Path Modeling*. North Carolina, USA: Statistical Associates Publishers Blue Book Series.

Gefen, D. (2000). E-commerce: the role of familiarity and trust. *Omega: The International Journal of Management Science, 28*(6), 725-737.

Gefen, D., Rigdon, E. E., & Straub, D. (2011). An Update and Extension to SEM Guidelines for Administrative and Social Science Research. *MIS Quarterly, 35*(2), III-XIV.

Gefen, D., & Straub, D. W. (2004). Consumer trust in B2C e-Commerce and the importance of social presence: experiments in e-Products and e-Services. *Omega: The International Journal of Management Science, 32*(6), 407-424.

Gefen, D., Straub, D. W., & Boudreau, M.-C. (2000). Structural Equation Modeling and Regression Guidelines for Research Practice. *Communications of the Association for Information Systems, 4*(7), 2-77.

Geisser, S. (1975). The Predictive Sample Reuse Method with Applications. *Journal of the American Statistical Association, 70*(350), 320-328.

George, J. F. (2004). The theory of planned behavior and Internet purchasing. *Internet Research, 14*(3), 198-212.

Gerbing, D. W., & Anderson, J. C. (1988). An Updated Paradigm for Scale Development Incorporating Unidimensionality and its Assessment. *Journal of Marketing Research, 25*(2), 186-192.

Goodwin, C. J. (2009). *Research In Psychology: Methods and Design* (6th ed.). Crawfordsville, IN: John Wiley & Sons.

Gotz, O., Liehr-Gobbers, K., & Krafft, M. (2010). Evaluation of Structural Equation Models Using the Partial Least Squares (PLS) Approach. In V. E. Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of Partial Least Squares: Concepts, Methods and Applications* (pp. 691-711). Berlin: Springer.

Grabner-Kraeuter, S. (2002). The Role of Consumers' Trust in Online-Shopping. *Journal of Business Ethics, 39*(1/2), 43-50.

Gravetter, F. J., & Forzano, L. A. B. (2011). *Research Methods for the Behavioral Sciences* (4th ed.). Belmont, CA: Cengage Learning.

Gretzel, U. (2006). Consumer generated content-trends and implications for branding. *e-Review of Tourism Research, 4*(3), 9-11.

Gretzel, U. (2012). Introduction to the Section on Web 2.0 and Travellers' Behaviour. In M. Sigala, E. Christou & U. Gretzel (Eds.), *Social Media in Travel, Tourism and Hospitality: Theory, Practice and Cases* (pp. 167-169). Surrey: Ashgate.

Gretzel, U., & Fesenmaier, D. R. (2009). Information Technology: Shaping the Past, Present, and Future of Tourism. In T. Jamal & M. Robinson (Eds.), *The SAGE Handbook of Tourism Studies* (pp. 558-580). London: Sage.

Gretzel, U., Kang, M., & Lee, W. (2008). Differences in Consumer-Generated Media Adoption and Use: A Cross-National Perspective. *Journal of Hospitality Marketing & Management, 17*(1), 99-120.

Gretzel, U., & Yoo, K. H. (2008). Use and Impact of Online Travel Reviews. In P. O'Connor, W. Hopken & U. Gretzel (Eds.), *Information and Communication Technologies in Tourism 2008* (pp. 35-46). Vienna, Austria: Springer.

Gretzel, U., Yoo, K. H., & Purifoy, M. (2007). Online Travel Review Report: Role & Impact of Online Travel Reviews: Laboratory for Intelligent Systems in Tourism.

Grewal, D., Monroe, K. B., & Krishnan, R. (1998). The effects of price-comparison advertising on buyers' perceptions of acquisition value, transaction value, and behavioral intentions. *The Journal of Marketing, 62*(April), 46-59.

Gudergan, S. P., Ringle, C. M., Wende, S., & Will, A. (2008). Confirmatory tetrad analysis in PLS path modeling. *Journal of Business Research, 61*(12), 1238-1249.

Gursoy, D., & McCleary, K. W. (2004). An Integrative Model of Tourists' Information Search Behavior. *Annals of Tourism Research, 31*(2), 353-373.

Haenlein, M., & Kaplan, A. M. (2004). A Beginner's Guide to Partial Least Squares Analysis. *Understanding Statistics, 3*(4), 283-297.

Hair, J. F., Black, W. C., Babin, H. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th ed.). New Jersey: Prentice Hall.

Hair, J. F., Ringle, C. M., Hult, G. T. M., & Sarstedt, M. (2013). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks, CA: SAGE Publications.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice, 19*(2), 139-151.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2012). Partial Least Squares: The Better Approach to Structural Equation Modeling? *Long Range Planning, 45*(5-6), 312-319.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (in press). Partial Least Squares Structural Equation Modeling: Rigorous Applications, Better Results and Higher Acceptance. *Long Range Planning*.

Hair, J. F., Sarstedt, M., Pieper, T. M., & Ringle, C. M. (2012). The Use of Partial Least Squares Structural Equation Modeling in Strategic Management Research: A Review of Past Practices and Recommendations for Future Applications. *Long Range Planning, 45*(5-6), 320-340.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science, 40*(3), 414-433.

Haley, G. T. (2002). E-commerce in China: Changing business as we know it. *Industrial Marketing Management, 31*(2), 119-124.

Harteveldt, H. H., Evans, P. F., Stark, E., & Zeidler, B. (2010). How Travel ebusiness can engage conversationalists, the new social media group - A Social Computing Report: Forrester Research.

Hassanein, K., & Head, M. (2007). Manipulating perceived social presence through the web interface and its impact on attitude towards online shopping. *International Journal of Human-Computer Studies, 65*(8), 689-708.

Hee, D. L., Lee, A., & Law, R. (2012). Examining Hotel Managers' acceptance of Web 2.0 in Website development: a case Study of Hotels in Hong kong. In M. Sigala, E. Christou & U. Gretzel (Eds.), *Social Media in Travel, Tourism and Hospitality: Theory, Practice and Cases* (pp. 53-65). Surrey, UK: Ashgate.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2012). Using partial least squares path modeling in international advertising research: Basic concepts and recent issues. In S. Okazaki (Ed.), *Handbook of Research in International Advertising* (pp. 252-276). Cheltenham, UK: Edward Elgar Publishing.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of Partial Least Squares Path Modeling in International Marketing. *Advances in International Marketing, 20*, 277-319.

Henseler, J., & Sarstedt, M. (in press). On the goodness-of-fit-index of partial least squares path modeling. *Computational Statistics*.

Hernandez, B., Jimenez, J., & Martín, M. J. (2009). Adoption vs acceptance of e-commerce: two different decisions. *European Journal of Marketing, 43*(9/10), 1232-1245.

Heung, V. C. S. (2003). Internet usage by international travellers: Reasons and barriers. *International Journal of Contemporary Hospitality Management, 15*(7), 370-378.

Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology, 65*(4), 599-610.

Hsu, M.-H., & Chiu, C.-M. (2004a). Internet self-efficacy and electronic service acceptance. *Decision Support Systems, 38*(3), 369-381.

Hsu, M.-H., & Chiu, C.-M. (2004b). Predicting electronic service continuance with a decomposed theory of planned behaviour. *Behaviour & Information Technology, 23*(5), 359-373.

Hsu, M.-H., Yen, C., Chiu, C., & Chang, C. (2006). A longitudinal investigation of continued online shopping behavior: An extension of the theory of planned behavior. *International Journal of Human-Computer Studies, 64*(9), 889-904.

Huang, C.-Y., Chou, C.-J., & Lin, P.-C. (2010). Involvement theory in constructing bloggers' intention to purchase travel products. *Tourism Management, 31*(4), 513-526.

Hui, B. S., & Wold, H. (1982). Consistency and Consistency at Large in Partial Least Squares Estimates. In K. G. Jöreskog & H. H. Wold (Eds.), *Systems Under Indirect Observation: Causality, Structure, Prediction - Part II* (pp. 119-130). Amsterdam: North Holland.

Hung, Y.-C., Yang, Y.-L., Yang, H.-E., & Chuang, Y.-H. (2011). Factors Affecting the Adoption of E-commerce for the Tourism Industry in Taiwan. *Asia Pacific Journal of Tourism Research, 16*(1), 105-119.

INE. (2012). Instituto Nacional de Estatistica. *Proporção de indivíduos com idade entre 16 e 74 anos que utilizaram comércio electrónico nos primeiros 3 meses do ano ou no ano anterior por tipo de produtos encomendados através de comércio electrónico* Retrieved May 10, 2012, from http://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_indicadores&indOcorrCod=0001891&contexto=bd&selTab=tab2

Internet World Stats. (2012). Internet World Statistics. *World Internet Users and Population Statistics* Retrieved March 1, 2011, from http://www.internetworldstats.com/stats.htm

Ip, C., Law, R., & Lee, H. A. (2011). A Review of Website Evaluation Studies in the Tourism and Hospitality Fields from 1996 to 2009. *International Journal of Tourism Research, 13*(3), 234-265.

Jackson, S. L. (2010). *Research Methods: A Modular Approach*. Belmont, California: Cengage Learning.

Jacoby, J., & Kaplan, L. B. (1972). The Components of Perceived Risk. In M. Venkatesan (Ed.), *Proceedings of the 3rd Annual Conference* (pp. 382-393). Champaign, IL: Association for Consumer Research.

Jarvenpaa, S. L., Tractinsky, N., & Saarinen, L. (1999). Consumer Trust in an Internet Store: A Cross Cultural Validation. *Journal of Computer Mediated Communication, 5*(2).

Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A Critical Review of Construct Indicators and Measurement Model Misspecification in Marketing and Consumer Research. *Journal of Consumer Research, 30*(2), 199-218.

Jennings, G. (2010). *Tourism Research* (2nd ed.). Milton, Queensland: John Wiley & Sons Australia, Ltd.

Jensen, J. M. (2009). Travellers' Intentions to Purchase Travel Products Online: The Role of Shopping Orientation. In A. Matias, P. Nijkamp & M. Sarmento (Eds.), *Advances in Tourism Economics: New Developments* (pp. 203-215). Heidelberg, Germany: Physica Verlag.

Jensen, J. M. (2012). Shopping Orientation and Online Travel Shopping: The Role of Travel Experience. *International Journal of Tourism Research, 14*(1), 56-70.

Jeong, M., & Choi, J. (2005). Effects of Picture Presentations on Customers' Behavioral Intentions on the Web. *Journal of Travel & Tourism Marketing, 17*(2), 193-204.

Jun, S. H., Vogt, C. A., & MacKay, K. J. (2007). Relationships between Travel Information Search and Travel Product Purchase in Pretrip Contexts. *Journal of Travel Research, 45*(3), 266-274.

Kah, J. A., Vogt, C., & Mackay, K. J. (2008). Online Travel Information Search and Purchasing by Internet Use Experiences. *Information Technology & Tourism, 10*(3), 227-243.

Kamarulzaman, Y. (2007). Adoption of travel e-shopping in the UK. *International Journal of Retail & Distribution Management, 35*(9), 703-719.

Kamarulzaman, Y. (2010). Geodemographics of Travel E-shoppers: An Empirical Analysis of Uk Consumers. *European Journal of Social Sciences, 16*(2), 195-205.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons, 53*(1), 59-68.

Kaplowitz, M. D., Hadlock, T. D., & Levine, R. (2004). A Comparison of Web and Mail Survey Response Rates. *Public Opinion Quarterly, 68*(1), 94-101.

Karahanna, E., Ahuja, M., Srite, M., & Galvin, J. (2002). Individual differences and relative advantage: the case of GSS. *Decision Support Systems, 32*(4), 327-341.

Kasavana, M. L., Nusair, K., & Teodosic, K. (2010). Online social networking: redefining the human web. *Journal of Hospitality and Tourism Technology, 1*(1), 68-82.

Kent, R. (2007). *Marketing Research: Approaches, Methods and Applications in Europe*. London: Thomson Learning.

Kerlinger, F. (1986). *Foundations of Behavioral Research* (3rd ed.). Orlando, Florida: Harcourt Brace & Company.

Kim, D.-Y., Lehto, X. Y., & Morrison, A. M. (2007). Gender differences in online travel information search: Implications for marketing communications on the internet. *Tourism Management, 28*(2), 423-433.

Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision Support Systems, 44*(2), 544-564.

Kim, D. J., Kim, W. G., & Han, J. S. (2007). A perceptual mapping of online travel agencies and preference attributes. *Tourism Management, 28*(2), 591-603.

Kim, L. H., Kim, D. J., & Leong, J. K. (2005). The Effect of Perceived Risk on Purchase Intention in Purchasing Airline Tickets Online. *Journal of Hospitality & Leisure Marketing, 13*(2), 33-53.

Kim, L. H., Qu, H., & Kim, D. J. (2009). A Study of Perceived Risk and Risk Reduction of Purchasing Air-Tickets Online. *Journal of Travel & Tourism Marketing, 26*(3), 203-224.

Kim, M.-J., Chung, N., & Lee, C.-K. (2011). The effect of perceived trust on electronic commerce: Shopping online for tourism products and services in South Korea. *Tourism Management, 32*(2), 256-265.

Kim, W. G., & Kim, D. J. (2004). Factors affecting online hotel reservation intention between online and non-online customers. *International Journal of Hospitality Management, 23*(4), 381-395.

Kim, W. G., Lee, C., & Hiemstra, S. J. (2004). Effects of an online virtual community on customer loyalty and travel product purchases. *Tourism Management, 25*(3), 343-355.

Kim, W. G., Ma, X., & Kim, D. J. (2006). Determinants of Chinese hotel customers' e-satisfaction and purchase intentions. *Tourism Management, 27*(5), 890-900.

Klein, S., Kohne, F., & Oorni, A. (2005). Barriers to Online Booking of Scheduled Airline Tickets. *Journal of Travel & Tourism Marketing, 17*(2), 27-39.

Kock, N. (2011). Using WarpPLS in e-Collaboration Studies:Mediating Effects, Control and Second Order Variables, and Algorithm Choices. *International Journal of e-Collaboration, 7*(3), 1-13.

Kolsaker, A., Lee-Kelley, L., & Choy, P. C. (2004). The reluctant Hong Kong consumer: purchasing travel online. *International Journal of Consumer Studies, 28*(3), 295-304.

Koufaris, M. (2003). Applying the technology acceptance model and flow theory to online consumer behavior. *Information Systems Research, 13*(2), 205-223.

Koumelis, T. (2012). Travelers are confident and frequent mobile shoppers Retrieved April 26, 2013, from http://www.traveldailynews.com/news/article/52052/travelers-are-confident-and-frequent

Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing, 15*(5-6), 411-432.

Ku, E., & Fan, Y. W. (2009). The Decision Making in Selecting Online Travel Agencies: An Application of Analytic Hierarchy Process. *Journal of Travel & Tourism Marketing, 26*(5), 482-493.

Kwak, H., Fox, R. J., & Zinkhan, G. M. (2002). What products can be successfully promoted and sold via the internet? *Journal of Advertising Research, 42*(1), 23-38.

Laurent, G., & Kapferer, J.-N. (1985). Measuring Consumer Involvement Profiles. *Journal of Marketing Research, 22*(February), 41 - 53.

Law, K. S., Chi-Sum, W., & Mobley, W. M. (1998). Toward a taxonomy of multidimensional constructs. [Article]. *Academy of Management Review, 23*(4), 741-755.

Law, R. (2006). Internet and Tourism—Part XXI: Tripadvisor. *Journal of Travel & Tourism Marketing, 20*(1), 75-77.

Law, R., & Bai, B. (2008). How do the preferences of online buyers and browsers differ on the design and content of travel websites? *International Journal of Contemporary Hospitality Management, 20*(4), 388-400.

Law, R., Bai, B., & Leung, B. (2008). Travel Website Uses and Cultural Influence: A Comparison between American and Chinese Travelers. *Information Technology & Tourism, 10*(3), 215-225.

Law, R., Law, A., & Wai, E. (2002). The Impact of the Internet on Travel Agencies in Hong Kong. *Journal of Travel & Tourism Marketing, 11*(2), 105-126.

Law, R., Leung, K., & Wong, J. (2004). The impact of the Internet on Travel Agencies. *International Journal of Contemporary Hospitality Management, 16*(2), 100-107.

Law, R., Leung, R., & Buhalis, D. (2009). Information technology applications in hospitality and tourism: a review of publications from 2005 to 2007. *Journal of Travel & Tourism Marketing, 26*(5-6), 599-623.

Lean, O. K., Zailani, S., Ramayah, T., & Fernando, Y. (2009). Factors influencing intention to use e-government services among citizens in Malaysia. *International Journal of Information Management, 29*(6), 458-475.

Lederer, A. L., Maupin, D. J., Sena, M. P., & Zhuang, Y. (1998). *The role of ease of use, usefulness and attitude in the prediction of World Wide Web usage*. Paper presented at the ACM SIGCPR conference on Computer personnel research, Boston, MA, USA.

Lee, H. Y., Qu, H., & Kim, Y. S. (2007). A study of the impact of personal innovativeness on online travel shopping behavior—A case study of Korean travelers. *Tourism Management, 28*(3), 886-897.

Lee, J., & Morrison, A. M. (2010). A comparative study of web site performance. *Journal of Hospitality and Tourism Technology, 1*(1), 50-67.

Lee, K. S., & Tan, S. J. (2003). E-retailing versus physical retailing A theoretical model and empirical test of consumer choice. *Journal of Business Research, 56*(11), 877-885.

Lee, M. K. O., Cheung, C. M. K., & Chen, Z. (2005). Acceptance of Internet-based learning medium: the role of extrinsic and intrinsic motivation. *Information & Management, 42*(8), 1095-1104.

Lee, M. K. O., & Turban, E. (2001). A Trust Model for Consumer Internet Shopping. *International Journal of Electronic Commerce, 6*(1), 75-91.

Lee, N., & Cadogan, J. W. (2013). Problems with formative and higher-order reflective variables. *Journal of Business Research, 66*(2), 242-247.

Lee, Y., & Kozar, K. A. (2008). An empirical investigation of anti-spyware software adoption: A multitheoretical perspective. *Information & Management, 45*(2), 109-119.

Leggatt, H. (2011). Travel purchases top of online shopping lists in Asia Retrieved from Biz Report website: http://www.bizreport.com/2011/03/travel-purchases-top-of-online-shopping-lists-in-asia.html

Leung, R., & Law, R. (2007). Analyzing research collaborations of information technology publications in leading hospitality and tourism journals: 1986–2005. In M. Sigala, L. Mich & J. Murphy (Eds.), *Information and Communication Technologies in Tourism 2007* (pp. 547-557). Vienna, Austria: Springer.

Lewis, I., Semeijn, J., & Talalayevsky, A. (1998). The Impact of Information Technology on Travel Agents. *Transportation Journal, 37*(4), 20-25.

Li, L., & Buhalis, D. (2005). Predicting internet usage for travel bookings in China. In A. J. Frew (Ed.), *Information and Communication Technologies in Tourism 2005* (pp. 429-439). Vienna, Austria: Springer.

Li, L., & Buhalis, D. (2006). E-Commerce in China: The case of travel. *International Journal of Information Management, 26*(2), 153-166.

Li, L., & Buhalis, D. (2008). Influential Factors of Internet Users Booking Online in China's Domestic Tourism *Journal of China Tourism Research, 4*(2), 172-188.

Limayem, M., Khalifa, M., & Frini, A. (2000). What Makes Consumers Buy from Internet? A Longitudinal Study of Online Shopping. *IEEE Transactions on Systems, Man, and Cybernetics - Part A: Systems and Humans, 30*(4), 421-432.

Lin, H.-F. (2007). Predicting consumer intentions to shop online: An empirical test of competing theories. *Electronic Commerce Research and Applications, 6*(4), 433-442.

Lin, P.-J., Jones, E., & Westwood, S. (2009). Perceived Risk and Risk-Relievers in Online Travel Purchase Intentions. *Journal of Hospitality Marketing & Management, 18*(8), 782-810.

Litvin, S. W., & Crotts, J. C. (2008). A Framework for Online Sales Negotiations of Hospitality and Tourism Services. *Journal of Information Technology & Tourism, 6*(2), 91-97.

Loiacono, E., Watson, R., & Goodhue, D. (2007). WebQual: An Instrument for Consumer Evaluation of Web Sites. *International Journal of Electronic Commerce, 11*(3), 51-87.

Lu, J., Yu, C. S., Liu, C., & Yao, J. E. (2003). Technology acceptance model for wireless Internet. *Internet Research, 13*(3), 206-222.

Luo, X., Li, H., Zhang, J., & Shim, J. (2010). Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: An empirical study of mobile banking services. *Decision Support Systems, 49*(2), 222-234.

Mack, R. W., Blose, J. E., & Pan, B. (2008). Believe it or not: Credibility of blogs in tourism. *Journal of Vacation Marketing, 14*(2), 133-144.

MacKenzie, S. B., Podsakoff, P. M., & Jarvis, C. B. (2005). The Problem of Measurement Model Misspecification in Behavioral and Organizational Research and Some Recommended Solutions. *Journal of Applied Psychology, 90*(4), 710-730.

Malhotra, N. K. (2008). *Marketing Research: An Applied Orientation* (5th ed.). Upper Saddle River, NJ: Pearson Education.

Mamaghani, F. (2009). Impact of E-commerce on Travel and Tourism: An Historical Analysis. *International Journal of Management, 26*(3), 365-375.

Marcoulides, G. A., & Saunders, C. (2006). Editor's comments: PLS: a silver bullet? *MIS Quarterly, 30*(2), iii-ix.

Marcussen, C. H. (1999). *Internet Distribution of European Travel and Tourism Services*. Denmark: Research Centre of Bornholm.

Mayr, T., & Zins, A. H. (2009). Acceptance of Online vs . Traditional Travel Agencies. *Anatolia: An International Journal of Tourism and Hospitality Research, 20*(1), 164-177.

McCole, P. (2002). The role of trust for electronic commerce in services. *International Journal of Contemporary Hospitality Management, 14*(2), 81 -87

McKercher, B., Law, R., & Lam, T. (2006). Rating tourism and hospitality journals. *Tourism Management, 27*(6), 1235-1252.

McQuarrie, E. F., & Munson, J. M. (1992). A Revised Product Involvement Inventory: Improved Usability and Validity. *Advances in Consumer Research, 19*(1), 108-115.

Mitchell, V. W. (1999). Consumer perceived risk: conceptualisations and models. *European Journal of Marketing, 33*(1/2), 163-195.

Mitchell, V. W., & Greatorex, M. (1993). Risk perception and reduction in the purchase of consumer services. *The Service Industries Journal, 13*(4), 179-200.

Mittal, B. (1989). Measuring Purchase-Decision Involvement. *Psychology and Marketing, 6*(2), 147-162.

Moital, M., Vaughan, R., & Edwards, J. (2009). Using involvement for segmenting the adoption of e-commerce in travel. *The Service Industries Journal, 29*(5), 723-739.

Moital, M., Vaughan, R., Edwards, J., & Peres, R. (2009). Determinants of Intention to Purchase Over the Internet. *Anatolia: An International Journal of Tourism and Hospitality Research, 20*(2), 345-358.

Moon, J.-W., & Kim, Y.-G. (2001). Extending the TAM for a World-Wide-Web context. *Information & Management, 38*(4), 217-230.

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research, 2*(3), 192-222.

Morosan, C., & Jeong, M. (2006). Understanding Travelers' Adoption of Hotel Reservation Web sites. In M. Hitz, M. Sigala & J. Murphy (Eds.), *Information and Communication Technologies in Tourism 2006* (pp. 394-405). Vienna, Austria: Springer.

Morosan, C., & Jeong, M. (2008). Users' perceptions of two types of hotel reservation Web sites. *International Journal of Hospitality Management, 27*(2), 284-292.

Morrison, A. M., Jing, S., O'Leary, J. T., & Cai, L. A. (2001). Predicting Usage of the Internet for Travel Bookings: An Exploratory Study. *Information Technology & Tourism, 4*(1), 15-30.

Murphy, J., & Law, R. (2008). Google Scholar Visibility and Tourism Journals. *Annals of Tourism Research, 35*(4), 1078-1082.

Murray, R. (2011). *How to Write a Thesis* (3rd ed.). Berkshire, England: McGraw-Hill Education.

Neuman, W. L. (2011). *Social Research Methods:Qualitative and Quantitative Approaches* (7th ed.). Upper Saddle River, NJ: Pearson Education.

Nielsen. (2008). Over 875 Million Consumers Have Shopped Online -- The Number of Internet Shoppers Up 40% in Two Years. Retrieved from http://www.nielsen.com/us/en/insights/press-room/2008/over_875_million_consumers.html

Njite, D., & Parsa, H. G. (2005). Structural equation modeling of factors that influence consumer internet purchase intentions of services. *Journal of Services Research, 5*(1), 43-59.

Noone, B. M., McGuire, K. A., & Niemeier, H.-M. (2011). Social media meets hotel revenue management: Opportunities, issues and unanswered questions. *Journal of Revenue and Pricing Management, 10*(4), 293-305.

Nunnally, J. C. (1978). *Psychometric Theory*. New York: McGraw Hill.

Nykiel, R. (2007). *Handbook of Marketing Research Methodologies for Hospitality and Tourism*. Binghampton, NY: Haworth Hospitality & Tourism Press.

O'Connor, P. (2008). User-Generated Content and Travel: A Case Study on Tripadvisor.Com. In P. O'Connor, W. Hopken & U. Gretzel (Eds.), *Information and Communication Technologies in Tourism 2008* (pp. 47-58). Vienna, Austria: Springer.

O'Connor, P., & Murphy, J. (2004). Research on information technology in the hospitality industry. *International Journal of Hospitality Management, 23*(5), 473-484.

Osborn, A. (2009). Online Advertising through Social Media. *Inc.com* Retrieved April 17, 2012, from http://technology.inc.com/2009/01/01/online-advertising-through-social-media/

Pan, B., & Crotts, J. C. (2012). Theoretical Models of Social Media, Marketing implications, and Future Research Directions. In M. Sigala, E. Christou & U. Gretzel (Eds.), *Social Media in Travel, Tourism and Hospitality: Theory, Practice and Cases* (pp. 73 - 85). Surrey, UK: Ashgate.

Pan, B., MacLaurin, T., & Crotts, J. C. (2007). Travel Blogs and the Implications for Destination Marketing. *Journal of Travel Research, 46*(1), 35-45.

Park, J., & Chung, H. (2009). Consumers' travel website transferring behaviour: analysis using clickstream data-time, frequency, and spending. *The Service Industries Journal, 29*(10), 1451-1463.

Parra-López, E., Gutiérrez-Taño, D., Díaz-Armas, R. J., & Bulchand-Gidumal, J. (2012). Travellers 2.0: Motivation, Opportunity and Ability to Use Social Media. In M. Sigala, E. Christou & U. Gretzel (Eds.), *Social Media in Travel, Tourism and Hospitality: Theory, Practice and Cases* (pp. 171-187). Surrey, UK: Ashgate.

Pavlou, P. A., & Chai, L. (2002). What drives electronic commerce across cultures? A cross-cultural empirical investigation of the theory of planned behavior. *Journal of Electronic Commerce Research, 3*(4), 240-253.

Pavlou, P. A., & Fygenson, M. (2006). Understanding and predicting electronic commerce adoption: An extension of the theory of planned behavior. *Management Information Systems Quarterly, 30*(1), 115.

Pechlaner, H., Zehrer, A., Matzler, K., & Abfalter, D. (2004). A Ranking of International Tourism and Hospitality Journals. *Journal of Travel Research, 42*(4), 328-332.

Peng, D. X., & Lai, F. (2012). Using partial least squares in operations management research: A practical guideline and summary of past research. *Journal of Operations Management, 30*(6), 467-480.

Peterson, R. A., & Merino, M. C. (2003). Consumer information search behavior and the Internet. *Psychology and Marketing, 20*(2), 99-121.

Petter, S., Straub, D., & Rai, A. (2007). Specifying Formative Constructs in Information Systems Research. *MIS Quarterly, 31*(4), 623-656.

Phang, C. W., Li, Y., Sutanto, J., & Kankanhalli, A. (2005). Senior citizens' adoption of E-government: In quest of the antecedents of perceived usefulness. *IEEE Transactions On Engineering Management, 53*, 555-569.

Phau, I., & Poon, S. M. (2000). Factors influencing the types of products and services purchased over the Internet. *Internet Research: Electronic Networking Applications and Policy, 10*(2), 102-113.

PhoCusWright. (2011). PhoCusWright. *PhoCusWright's Social Media in Travel 2011: Traffic, Activity and Sentiment* Retrieved July 21, 2011, from http://www.phocuswright.com/store/1669#table_of_contents

PhocusWright. (2012). Empowering inspiration: The future of travel search. Sherman, CT.

Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnila, S. (2004). Consumer acceptance of online banking: an extension of the technology acceptance model. *Internet Research, 14*(3), 224-235.

Pizam, A. (1999). Cross Cultural Tourist Behavior In A. Pizam & Y. Mansfeld (Eds.), *Consumer Behavior in Travel and Tourism* (pp. 393-408). New York: Routledge.

Plouffe, C. R., Hulland, J. S., & Vandenbosch, M. (2001). Research report: Richness versus parsimony in modeling technology adoption decisions—Understanding merchant adoption of a smart card-based payment system. *Information Systems Research, 12*(2), 208-222.

Popper, K. (1963). *Conjectures and refutations: The growth of scientific knowledge* London: Routledge.

Powley, J. H., Cobanoglu, C., & Cummings, P. R. (2004). Determinants of online travel purchases from third-party travel web sites. In A. J. Frew (Ed.), *Information and Communication Technologies in Tourism 2004* (pp. 424-436). Vienna, Austria: Springer

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing Moderated Mediation Hypotheses: Theory, Methods, and Prescriptions. *Multivariate Behavioral Research, 42*(1), 185-227.

Premkumar, G. (2003). A meta-analysis of research on information technology implementation in small business. *Journal of Organizational Computing and Electronic Commerce, 13*(2), 91-121.

Punch, K. F. (2005). *Introduction to Social Research: Quantitative and Qualitative Approaches*. London: Sage.

Riemenschneider, C. K., Hardgrave, B. C., & Davis, F. D. (2002). Explaining software developer acceptance of methodologies: A comparison of five theoretical models. *IEEE Transactions on Software Engineering, 28*(12), 1135-1145.

Ringle, C. (2006). Segmentation for path models and unobserved heterogeneity: The finite mixture partial least squares approach. *Research Papers on Marketing and Retailing 35*, 1-29.

Ringle, C. M., Sarstedt, M., & Schlittgen, R. (2010). Finite Mixture and Genetic Algorithm Segmentation in Partial Least Squares Path Modeling: Identification of Multiple Segments in Complex Path Models. In A. Fink, B. Lausen, W. Seidel & A. Ultsch (Eds.), *Advances in Data Analysis, Data Handling and Business Intelligence*. Berlin: Springer-Verlag.

Ringle, C. M., Sarstedt, M., & Straub, D. W. (2012). A Critical Look at the Use of PLS-SEM in MIS Quarterly. *MIS Quarterly, 36*(1), ii-xiv.

Ringle, C. M., Wende, S., & Will, S. (2005). SmartPLS 2.0 (M3) (Version Beta). [Software]. Hamburg. Retrieved from http://www.smartpls.de

Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). New York, NY: The Free Press.

Rothschild, M. L. (1984). Perspectives on Involvement: Current Problems and Future Directions. *Advances in Consumer Research, 11*(1), 216-217.

Ryan, C. (2005). The ranking and rating of academics and journals in tourism research. *Tourism Management, 26*(5), 657-662.

Ryan, C., & Rao, U. (2008). Holiday Users of the Internet — Ease of Use, Functionality and Novelty. *International Journal of Tourism Research, 10*(4), 329-339.

Ryanair. (2010). Ryanair Holdings Annual Report & Financial Statements 2010. Retrieved from www.ryanair.com/doc/investor/2010/Annual_report_2010_web.pdf.

San Martín, H., & Herrero, A. (2012). Influence of the user's psychological factors on the online purchase intention in rural tourism: Integrating innovativeness to the UTAUT framework. *Tourism Management, 33*(2), 341-350.

Sarstedt, M. (2008). A review of recent approaches for capturing heterogeneity in partial least squares path modelling. *Journal of Modelling in Management, 3*(2), 140-161.

Schmidt, J. B., & Spreng, R. A. (1996). A proposed model of external consumer information search. *Journal of the Academy of Marketing Science, 24*(3), 246-256.

Shang, R.-A., Chen, Y.-C., & Shen, L. (2005). Extrinsic versus intrinsic motivations for consumers to shop on-line. *Information & Management, 42*(3), 401-413.

Shao, G. (2009). Understanding the appeal of user-generated media: a uses and gratification perspective. *Internet Research, 19*(1), 7-25.

Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, 325-343.

Shih, Y. Y., & Fang, K. (2004). The use of a decomposed theory of planned behavior to study Internet banking in Taiwan. *Internet Research, 14*(3), 213-223.

Shim, S., Eastlick, M. A., Lotz, S. L., & Warrington, P. (2001). An online prepurchase intentions model: The role of intention to search. *Journal of Retailing, 77*(3), 397-416.

Shin, D. H. (2010). MVNO services: Policy implications for promoting MVNO diffusion. *Telecommunications Policy, 34*(10), 616-632.

Sim, L. L., & Koi, S. M. (2002). Singapore's Internet shoppers and their impact on traditional shopping patterns. *Journal of Retailing and Consumer Services, 9*(2), 115-124.

Simms, A. (2012). Online User-Generated Content for Travel Planning – Different for different kinds of trips? *e-Review of Tourism Research 10*(3), 76-85.

Sirkin, M. (2006). *Statistics for the Social Sciences* (3rd ed.). London: Sage.

SITA. (2008). Airline IT Trends Survey 2008 Retrieved August 24, 2011, from http://www.sita.aero/content/airline-it-trends-survey-2008

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology, 13*(1), 290-312.

Sönmez, S. F., & Graefe, A. R. (1998). Determining future travel behavior from past travel experience and perceptions of risk and safety. *Journal of Travel Research, 37*(2), 171-177.

Sparks, B. A., & Browning, V. (2011). The impact of online reviews on hotel booking intentions and perception of trust. *Tourism Management, 32*(6), 1310-1323.

Sparks, P., Guthrie, C. A., & Shepherd, R. (1997). The Dimensional Structure of the Perceived Behavioral Control Construct. *Journal of Applied Social Psychology, 27*(5), 418-438.

Stone, M. (1974). Cross-Validatory Choice and Assessment of Statistial Predictions. *Journal of Royal Statistical Society, Series B, 36*(2), 111-147.

Stone, R. N. (1984). The Marketing Characteristics of Involvement. *Advances in Consumer Research, 11*(1), 210-215.

Straub, D., Boudreau, M. C., & Gefen, D. (2004). Validation guidelines for IS Positivist Research. *Communication Association Information Systems, 13*, 380-427.

Suh, B., & Han, I. (2002). Effect of trust on customer acceptance of Internet banking. *Electronic Commerce Research and Applications, 1*(3–4), 247-263.

Susskind, A. M., Bonn, M. A., & Dev, C. S. (2003). To Look or Book: An Examination of Consumers' Apprehensiveness toward Internet Use. *Journal of Travel Research, 41*(3), 256-264.

Susskind, A. M., & Stefanone, M. A. (2010). Internet apprehensiveness: An examination of on-line information seeking and purchasing behavior. *Journal of Hospitality and Tourism Technology, 1*(1), 5-29.

Swetnam, D. (2001). *Writing Your Dissertation: How to Plan, Prepare and Present Your Work Successfully*. Oxford, United Kingdom: How to Books.

Tan, S. J. (1999). Strategies for reducing consumers' risk aversion in Internet shopping. *Journal of Consumer Marketing, 16*(2), 163-180.

Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research, 6*(2), 144-176.

Temme, D., Kreis, H., & Hildebrandt, L. (2010). A Comparison of Current PLS Path Modeling Software: Features, Ease-of-Use, and Performance. In V. E. Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of Partial Least Squares: Concepts, Methods and Applications* (pp. 737-756). Berlin: Springer.

Tenenhaus, M., Amato, S., & Esposito Vinzi, V. (2004). A global goodness-of-fit index for PLS structural equation modelling. In *Proceedings of the XLII SIS Scientific Meeting* (pp. 739-742). Padova: CLEUP.

Tenenhaus, M., Vinzi, V. E., Chatelin, Y.-M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data Analysis, 48*(1), 159-205.

Teo, T. S. H., Lim, V. K. G., & Lai, R. Y. C. (1999). Intrinsic and extrinsic motivation in Internet usage. *Omega: The International Journal of Management Science, 27*(1), 25-37.

Teo, T. S. H., & Yeong, Y. D. (2003). Assessing the consumer decision process in the digital marketplace. *The International Journal of Management Science, 31*(5), 349-363.

Terry, D. (1993). Self-efficacy expectancies and the theory of reasoned action. In D. J. Terry, C. Gallois & M. McCamish (Eds.), *The Theory of Reasoned Action: Its application to AIDS-preventive behaviour.* (Vol. 28, pp. 135-151). Queensland, Australia: Pergamon Press.

Tornatzky, L. G., & Klein, K. J. (1982). Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. *IEEE Transactions on Engineering Management, 29*(1), 28-45.

Trafimow, D., Sheeran, P., Conner, M., & Finlay, K. A. (2002). Evidence that perceived behavioural control is a multidimensional construct: Perceived control and perceived difficulty. *British Journal of Social Psychology, 41*(1), 101-121.

Triandis, H. C. (1980). Values, attitudes, and interpersonal behavior. In M. M. Page (Ed.), *Nebraska Symposium on Motivation 1979—Beliefs, Attitudes and Values* (pp. 195-260). Lincoln, NE: University of Nebraska Press.

TripAdvisor. (2012a). TripAdvisor Reports Third Quarter 2012 Financial Results Retrieved February 1, 2012, from http://files.shareholder.com/downloads/AMDA-MMXS5/1926554121x0x610559/a11c728f-c0d9-4fd5-9250-41b73da2a666/TripRelease_3Q12.pdf

Tripadvisor. (2012b). Tripadvisor.com. *Fact Sheet* Retrieved April 13, from http://www.tripadvisor.co.uk/PressCenter-c4-Fact_Sheet.html

Urbach, N., & Ahlemann, F. (2010). Structural Equation Modeling in Information Systems Research Using Partial Least Squares. *Journal of Information Technology Theory and Application, 11*(2), 5-40.

Van Slyke, C., Lou, H., & Day, J. (2002). The impact of perceived innovation characteristics on intention to use groupware. *Information Resources Management Journal, 15*(1), 5-12.

Veal, A. J. (2006). *Research Methods for Leisure and Tourism: A Practical Guide* (3rd ed.). Essex, England: Pearson Education.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science, 46*(2), 186-204.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 425-478.

Venkatraman, M. P. (1989). Involvement and risk. *Psychology and Marketing, 6*(3), 229-247.

Verhoef, P. C., & Langerak, F. (2001). Possible determinants of consumers' adoption of electronic grocery shopping in the Netherlands. *Journal of Retailing and Consumer Services, 8*(5), 275-285.

Vermeulen, I., & Seegers, D. (2009). Tried and tested: The impact of online hotel reviews on consumer consideration. *Tourism Management, 30*(1), 123-127.

Vijayasarathy, L. R. (2002). Product characteristics and Internet shopping intentions. *Internet Research, 12*(5), 411-426.

Vijayasarathy, L. R. (2004). Predicting consumer intentions to use on-line shopping: the case for an augmented technology acceptance model. *Information & Management, 41*(6), 747-762.

Vinzi, V. E., Trinchera, L., & Amato, S. (2010). PLS Path Modeling: From Foundations to Recent Developments and Open Issues for Model Assessment and Improvement. In V. E. Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of Partial Least Squares: Concepts, Methods and Applications in Marketing and Related Fields* (pp. 47-82). Berlin: Springer.

Walden, P., Carlsson, C., & Papageorgiou, A. (2011, Jan.). *Travel Information Search - The Presence of Social Media.* Paper presented at the 44th Hawaii International Conference on System Sciences, Hawaii.

Walle, A. H. (1997). Quantitative versus Qualitative Tourism Research. *Annals of Tourism Research, 24*(3), 524-536.

Wang, M. S., Chen, C. C., Chang, S. C., & Yang, Y. H. (2007). Effects of online shopping attitudes, subjective norms and control beliefs on online shopping intentions: a test of the theory of planned behaviour. *International Journal of Management, 24*(2), 296-302.

Wang, Y., & Fesenmaier, D. R. (2004). Modeling Participation in an Online Travel Community. *Journal of Travel Research, 42*(3), 261-270.

Wang, Y. D., & Emurian, H. H. (2005). An overview of online trust: Concepts, elements, and implications. *Computers in Human Behavior, 21*, 105-125.

Weber, K., & Roehl, W. S. (1999). Profiling People Searching for and Purchasing Travel Products on the World Wide Web. *Journal of Travel Research, 37*(3), 291-298.

Webster, J., & Watson, R. T. (2002). Analyzing the Past to Prepare for the Future: Writing a Literature Review. *MIS Quarterly, 26*(2), xiii - xxiii.

Wen, I. (2010). Online Travelers' Decision Makings: A New Equation Model to Evaluate Impacts of Website, Search Intention, and Trust. *Information Technology & Tourism, 12*(2), 153-173.

Werthner, H., & Klein, S. (1999). *Information Technology and Tourism - A Challenging Relationship*. Vienna/New York: Springer.

Werthner, H., & Ricci, F. (2004). E-Commerce and Tourism. *Communications of the ACM, 47*(12), 101-105.

Wetzels, M., Odekerken-Schroder, G., & van Oppen, C. (2009). Using PLS Path Modeling for Assessing Hierarchical Constuct Models: Guidelines and Empirical Illustration. *MIS Quarterly, 33*(1), 177-195.

Wilson, B., & Henseler, J. (2007). *Modeling reflective higher-order constructs using three approaches with PLS path modeling: a Monte Carlo comparison*. Paper presented at the Australian and New Zealand Marketing Academy Conference, Otago, Australia.

Wold, H. O. (1982). Soft Modeling: The Basic Design and Some Extensions. In K. G. Jöreskog & H. Wold (Eds.), *Systems Under Indirect Observation: Causality, Structure, Prediction, Part II* (pp. 1-54). Amesterdam: North-Holland.

Wolfe, K., Hsu, C., & Kang, S. (2005). Buyer Characteristics Among Users of Various Travel Intermediaries. *Journal of Travel & Tourism Marketing, 17*(2), 51-62.

Wong, J., & Law, R. (2005). Analysing the intention to purchase on hotel websites: a study of travellers to Hong Kong. *International Journal of Hospitality Management, 24*(3), 311-329.

World Travel Market. (2010). World Travel Market Industry Report. London.

WTTC. (2011). Travel and Tourism 2011. Retrieved from World Travel and Tourism Council website: http://www.wttc.org/site_media/uploads/downloads/traveltourism2011.pdf

Wu, J.-H., & Wang, S.-C. (2005). What drives mobile commerce? An empirical evaluation of the revised technology acceptance model. *Information & Management, 42*(5), 719-729.

WWW Metrics. (2011). Growth of the Travel Industry Online Retrieved April 15, 2013, from http://www.wwwmetrics.com/travel.htm

Xiang, Z., & Gretzel, U. (2010). Role of social media in online travel information search. *Tourism Management, 31*(2), 179-188.

Ye, Q., Law, R., & Gu, B. (2009). The impact of online user reviews on hotel room sales. *International Journal of Hospitality Management, 28*(1), 180-182.

Ye, Q., Law, R., Gu, B., & Chen, W. (2011). The influence of user-generated content on traveler behavior: An empirical investigation on the effects of e-word-of-mouth to hotel online bookings. *Computers in Human Behavior, 27*(2), 634-639.

Yoo, K.-H., & Gretzel, U. (2011). Influence of personality on travel-related consumer-generated media creation. *Computers in Human Behavior, 27*(2), 609-621.

Yoo, K.-H., & Gretzel, U. (2012). Use and Creation of Social Media by Travellers. In M. Sigala, E. Christou & U. Gretzel (Eds.), *Social Media in Travel, Tourism and Hospitality: Theory, Practice and Cases* (pp. 189 - 205). Surrey, UK: Ashgate.

Yu, T.-K., & Wu, G.-S. (2007). Determinants of Internet Shopping Behavior: An Application of Reasoned Behaviour Theory. *International Journal of Management, 24*(4), 744–762.

Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of Consumer Research*, 341-352.

Zhou, L., Dai, L., & Zhang, D. (2007). Online Shopping Acceptance Model — A Critical Survey of Consumer Factors in Online Shopping. *Journal of Electronic Commerce Research, 8*(1), 41-62.

Zhou, Z. (2004). *E-commerce and information technology in hospitality and tourism*. Canada: Delmar Learning.

APPENDICES

APPENDIX 1- SUMMARY OF STUDIES FOCUSING ON ONLINE TRAVEL SHOPPING

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
1999	Journal of Travel Research	Weber, K., & Roehl, W. S.	Online	Secondary data and online survey (USA)	Chi Square	2481	Empirical (Quantitative)
	Title	Profiling People Searching for and Purchasing Travel Products on the World Wide Web					
	Main Objectives	Profile people who use the Internet to gather information or to purchase travel arrangements.					
	Major Findings	Individuals between the ages of 25 to 55, higher levels of education and income were more likely to purchase travel on-line. Online travel purchasers are more likely to have been online for more than 4 years and spend more time online than individuals who purchased travel off-line. No differences between online purchasers and non-purchasers regarding gender and race.					
2001	Information Technology & Tourism	Morrison, A. M., Jing, S., O'Leary, J. T., & Cai, L. A.	Online	Method combining the Web and e-mail with students from USA	Stepwise Logistic Regression Analysis; Factor Analysis	380	Empirical (Quantitative)
	Title	Predicting Usage of the Internet for Travel Bookings: An Exploratory Study					
	Main Objectives	Develop a predictive model for the likelihood of booking travel online and for being a repeat booker of travel online.					
	Major Findings	Education was found to be the only socio demographic variable to predict the likelihood of lookers becoming bookers. Other factors that were found to affect this likelihood: type of travel sites visited, travel behaviour in the past 12 months. The variables that predicted the probability of being a repeat booker were the amount of time per week spent online, the type of travel products bought online and the fact that they had a membership in a frequent flyers program.					
2002	International Journal of Contemporary Hospitality Management	McCole, P.	Focus Group	Sessions of 7 to 10 individuals from the UK	-	Not mentioned	Empirical (Qualitative)
	Title	The role of trust for electronic commerce in services					
	Main Objectives	Examine the effect of trust on the propensity to purchase through the Internet for travel-related commodities.					
	Major Findings	Trust is a multidimensional construct and is important to consumers for purchasing travel online. The author provides cues that should be present on Web sites to build trust.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2003	International Journal of Contemporary Hospitality Management	Heung, V. C. S.	Questionnaire	Personal Interviews to International travellers departing from Hong Kong airport	ANOVA	1104	Empirical (Quantitative)
	Title	Internet usage by international travellers: Reasons and barriers					
	Main Objectives	Explore travellers' Internet usage for travel information and shopping.					
	Major Findings	Online travel purchasers are more likely to be Western travellers, highly educated and with higher incomes. The most cited reasons for not purchasing travel online were "Prefer other service", followed by "Concerned about security". The most cited reasons for using the Internet for travel information or booking were convenience, time saving, better service and liking to try new technology.					
2003	Journal of Travel Research	Card, J. A., Chen, C. Y., & Cole, S. T.	Online	Members of the Travel and Tourism research Association that lived in the USA	MANOVA	296	Empirical (Quantitative)
	Title	Online Travel Products Shopping: Differences between Shoppers and Non shoppers					
	Main Objectives	Examine Differences between online travel purchasers and non-purchasers.					
	Major Findings	Online travel purchasers and non-purchasers are similar in how they viewed differences between Internet shopping and shopping at traditional stores (store characteristics). Online travel purchasers and non-purchasers differed on personal characteristics. Online purchasers were found to be more high-tech prone, opinion leaders and with higher degrees of involvement.					
2003	Journal of Travel Research	Susskind, A. M., Bonn, M. A., & Dev, C. S.	Questionnaire	2 samples of people travelling to Florida; 1 sample of students	Logistic Regression Analysis; Confirmatory factor analysis	697, 728 and 300	Empirical (Quantitative)
	Title	To Look or Book: An Examination of Consumers' Apprehensiveness toward Internet Use					
	Main Objectives	Examine the relationship between Internet apprehensiveness and consumers perceived online information seeking and purchasing behaviours.					
	Major Findings	The results indicated that GIA had a negative relationship with the desire to search for information and book online. Likewise, TIA revealed to be negatively related with the desire to search for information and, to a greater extent, with the desire to book travel online. Individuals view online information seeking and online transactions differently.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2003	Journal of Travel & Tourism Marketing	Christou, E., & Kassianidis, P.	Questionnaire	Personal Interviews to Greek individuals who have never purchased travel online	SEM and multi-group analysis	125	Empirical (Quantitative)
	Title	Consumer's Perceptions and Adoption of Online Buying for Travel Products.					
	Main Objectives	Examine the relationship between advantages and disadvantages of electronic travel agency shopping and consumers' perception of the innovation characteristics of electronic travel shopping. Examine the relationship between consumers' perception of these characteristics and their intention to adopt electronic travel shopping.					
	Major Findings	Physical effort of in-store travel shopping is positively correlated to the perceived relative advantage of e-shopping for travel services. Time pressures positively influences relative advantage. Shopping enjoyment is not related to relative advantage or to perceived compatibility. Perceived relative advantage and perceived compatibility are related positively to the intention to adopt online shopping.					
2004	International Journal of Contemporary Hospitality Management	Law, R., Leung, K., & Wong, J.	Questionnaire	Personal interviews to International travellers departing from Hong Kong airport	Means	413	Empirical (Quantitative)
	Title	The impact of the Internet on Travel Agencies.					
	Main Objectives	Investigate how travellers perceive the impact of the Internet on travel agencies.					
	Major Findings	Respondents considered that travel agencies perform better than travel Web sites in terms of the human touch and personal services. However they realize that online travel agencies have the potential to be a popular channel for providing travel services. Short-haul travellers' perception of online travel agencies is more positive than long-haul travellers.					
2004	Information and Technologies in Tourism	Christou, E., Avdimiotis, S., Kassianidis, P., & Sigala, M.	Focus Groups	12 focus groups compromising between 8 to 10 participants	Qualitative	Between 96-120	Empirical (Qualitative)
	Title	Examining the Factors Influencing the Adoption of Web-Based Ticketing: Etix and its Adopters.					
	Main Objectives	Examine consumer adoption of online air tickets.					
	Major Findings	Roger's innovation attributes (Compatibility, Observability, Trialability, Perceived Relative Advantages and Complexity) and Perceived Risk are significant determinants of the adoption of airline tickets.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2004	Information and Technologies in Tourism	Powleya, J. H., Cobanoglua, C., & Cummingsa, P. R.	Questionnaire	3000 randomly selected members of the American management association	Factor analysis, Multiple regression	184	Empirical (Quantitative)
	Title	Determinants of online travel purchases from third-party travel web sites					
	Main Objectives	Investigates consumers' intentions to buy travel from online travel agencies. Demographic of Internet users, online purchasing satisfaction experiences, attitudes and perceptions were also investigated.					
	Major Findings	Consumers that had enjoyable experiences and felt confident on the website were more willing to purchase travel online.					
2004	International Journal of Hospitality Management	Kim, W. G.& Kim, D. J.	Questionnaire	Customers from 8 hotels in Korea	Chi Square, Factor Analysis and Multiple Regression	255	Empirical (Quantitative)
	Title	Factors affecting online hotel reservation intention between online and non-online customers					
	Main Objectives	Examine the differences between demographic and behavioural characteristics of customers who purchased products online and customers who did not. Determinants that explain customers' online reservation intention.					
	Major Findings	Customers who purchased travel online differ from non-purchasers in regard to their age, education, weekly browser usage and number of years of Internet use. No differences in income or gender exist. Convenience, price and safety are the most important factors affecting intention to purchase online for non-purchasers. Convenience, ease of information search and transaction were the most important for online purchasers.					
2004	Journal of Travel & Tourism Marketing	Bai, B., Hu, C., Elsworth, J., & Countryman, C.	Data was collected in a controlled environment	College students in the USA	Multinomial logistic regression	60	Empirical (Quantitative)
	Title	Online Travel Planning and College Students: The Spring Break Experience					
	Main Objectives	Investigate college students' online travel behaviour in vacation planning through selected websites					
	Major Findings	Easiness of meeting the vacation budget and comfortability of providing credit card information increase the probability of college students' satisfaction with the online vacation planning process. The study also found that the more time that was used to search for an online vacation the less the likelihood of achieving higher levels of satisfaction.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2004	International Journal of Consumer Studies	Kolsaker, A., Lee-Kelley, L., & Pui Ching, C.	Questionnaire sent by email	Internet users in Hong King 18 or older	Pearson Correlation, Regression Analysis	120	Empirical (Quantitative)
	Title	The reluctant Hong Kong consumer: purchasing travel online.					
	Main Objectives	Investigate why Hong Kong consumers seem reluctant to buy airline tickets online					
	Major Findings	Although Hong Kong consumers acknowledge the convenience of online shopping, they recognize simultaneously the risks associated with buying airline tickets online and risk is the strongest influence.					
2004	Information and Communication Technologies in Tourism	Brown, M., Gottlieba, U., & Muchira, R.	Questionnaire	Undergraduate and graduate students from Australia	ANOVA	186	Empirical (Quantitative)
	Title	Privacy Concerns and Purchase of Travel Product Online.					
	Main Objectives	Examine the effect of privacy concerns on online travel purchase behaviour.					
	Major Findings	Privacy concerns were explored by using three aspects that previous researchers had identified as being of primary concerns: unauthorized use of secondary data, invasion of privacy (unsolicited communications to consumers) and errors (personal data being deliberately or not altered). Unexpectedly, their findings revealed that these privacy concerns do not have an impact on individuals' actual or intended online travel purchase.					
2005	Journal of Hospitality and Leisure Marketing	Kim, L., Kim, D. J., & Leong, J. K.	Online survey	Emails with link to survey were sent to 4.326 students, faculty and staff of 7 Universities in the USA.	Factor analysis, multiple regression	310	Empirical (Quantitative)
	Title	The Effect of Perceived Risk on Purchase Intention in Purchasing Airline Tickets Online					
	Main Objectives	Examine the effect of Perceived Risk on Purchase Intention in Purchasing Airline Tickets Online, using 7 types of risk.					
	Major Findings	All seven risk dimensions were positively correlated with one another, whereas they were negatively correlated with consumers purchase intention. Performance risk, followed by financial risk and time risk has the strongest effect on purchase intention.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2005	Information and Communication Technologies in Tourism	Li, L. & Buhalis, D.	Online	Online questionnaire was emailed to 103,000 randomly selected registered customers of eLong.com	Binary Logistic regression Analysis	872	Empirical (Quantitative)
	Title	Predicting internet usage for travel bookings in China					
	Main Objectives	Identify the determinants that turn lookers into bookers in China.					
	Major Findings	The type of travel website most visited, self-efficacy, domain specific innovativeness and perception of the Internet were found to be significant predictors of Chinese lookers' probability of booking travel online.					
2005	Tourism Management	Beldona, S., Morrison, A., & Oaleary, J.	Secondary data	Data from a telephone survey conducted by the Canadian Tourism Commission in 2001 to USA and Canada residents	Correspondence Analysis	2.306	Empirical (Quantitative)
	Title	Online shopping motivations and pleasure travel products: a correspondence analysis					
	Main Objectives	Evaluate the relationship between consumer purchase motivations across low and high complex travel products.					
	Major Findings	The purchase of less complex travel products are driven by factors such as rewards/points and price, whereas the motivators of products with higher complexity were detailed information and availability. Low and high skilled Internet users are distinctively different.					
2005	International Journal of Hospitality Management	Wong, J., & Law, R	Questionnaire	Personal interviews to International travellers departing from Hong Kong airport	Means, Factor Analysis	638	Empirical (Quantitative)
	Title	Analysing the intention to purchase on hotel websites: a study of travellers to Hong Kong					
	Main Objectives	Assess which factors travellers perceive to be important in causing them to form intention to make a purchase over a hotel website.					
	Major Findings	Of 3 dimensions - price level, web security and web features - respondents perceived price level as the most important when making the decision to book hotel rooms through the Internet.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2005	Journal of Travel and Tourism Marketing	Klein, S., Kohne, F., & Oorni, A.	Controlled environment	2 samples, the 1st collected in 1999 with students from Finland and the 2nd carried out in 2002 with German students	Multigroup/ Means Comparison	122 and 44	Empirical (Quantitative)
	Title	Barriers to Online Booking of Scheduled Airline Tickets.					
	Main Objectives	Examine reasons for slow adoption of online booking, namely for scheduled airline tickets.					
	Major Findings	Price dispersion in the online market poses an obstacle to the acceptance of online ticket booking. The complexity of product description and booking environment were found to have an impact on the consumer's perception and acceptance to online booking.					
2005	Journal of Travel and Tourism Marketing	Wolfe, K., Hsu, C., & Kang, S.	Questionnaire	A questionnaire was sent to clients of travel agencies and was also administered to travellers at an airport in the USA	MANOVA, Chi square tests, ANOVA	382	Empirical (Quantitative)
	Title	Buyer Characteristics Among Users of Various Travel Intermediaries.					
	Main Objectives	Explore differences among travellers who used various intermediary sources: traditional travel agent, Internet and both.					
	Major Findings	Travellers who purchase from travel agents consider quality service, travel knowledge, friendliness, personal service, reputation and past experience more important than those who purchase only from the internet. Respondents who purchase only from the Internet consider service charge as most important. Also provides a demographic profile of those who purchase on the Internet.					
2006	Tourism Management	Kim, W. G., Ma, X., & Kim, D. J.	Questionnaire	Chinese hotel customers staying at 12 sampled hotels in Beijing	Factor analysis and multiple regression analysis	206	Empirical (Quantitative)
	Title	Determinants of Chinese hotel customers' e-satisfaction and purchase intentions.					
	Main Objectives	Identify the determinants affecting Chinese hotel customers' online reservation intentions and to assess their satisfaction with online hotel reservation.					
	Major Findings	Information needs was the most important factor in explaining the respondents e-satisfaction, followed by safety and convenience. The variable technological inclination was the greatest determinant in explaining the respondents online purchase intention; followed by price benefits, service performance and reputation, safety and convenience. Information needs was found to be insignificant on online purchase intentions.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2006	Information Technology & Tourism	Chen, C.	Online	A pop-up would appear on a US Travel portal for people to respond to online survey	Factor Analysis, Multiple Linear regression	300	Empirical (Quantitative)
	Title	Identifying significant factors influencing consumer trust in an online travel site					
	Main Objectives	Identify significant factors that influence consumer's overall trust in an online travel site.					
	Major Findings	The factors that affect consumers' overall trust in an online travel website were: Education (higher level had less trust), characteristics of the website, website's reputation and service and overall satisfaction.					
2006	Information Technology & Tourism	Cho, Y. C., & Agrusa, J.	Online	Randomly selected subjects from a University in the US	Factor Analysis Regression and ANOVA	350	Empirical (Quantitative)
	Title	Assessing use acceptance and satisfaction toward online travel agencies.					
	Main Objectives	Examine which factors affected consumers' perceived ease of use and usefulness and the effects on overall attitudes toward online travel agencies.					
	Major Findings	Information, price, technology and usability, promotion, and entertainment affect Ease of Use and Ease of Usefulness. The higher the consumers' involvement is the higher is the impact of these factors. Convenience, as well as product and service, and brand name familiarity were factors that had no impact on perceived ease of use and usefulness. Perceived ease of use and usefulness affected consumer's attitude toward online travel agencies, which in turn affected consumers' satisfaction or intention to use					
2006	Information and Communication Technologies in Tourism	Morosan, C., & Jeong, M.	Online	Data collected from USA University students	SEM	914	Empirical (Quantitative)
	Title	Understanding Travellers' Adoption of Hotel Reservation Web sites.					
	Main Objectives	Explores travellers' usage of hotel reservation websites.					
	Major Findings	Perceived usefulness, ease of use and playfulness affect attitudes toward using hotel reservation Web sites. Attitudes and perceived playfulness had an impact on users' intentions to use these Web sites for reservations.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2006	Information and Communication Technologies in Tourism	Bogdanovych, A., Berger, H., Simoff, S., & Sierra, C.	Online	Posted called for participation. Respondents were from 25 different countries.	Descriptive	132	Empirical (Quantitative)
	Title	Travel Agents vs. Online Booking: Tackling the Shortcomings of Nowadays Online Tourism Portals.					
	Main Objectives	Identify reasons why people rely on traditional travel agents instead of booking online.					
	Major Findings	The majority of the respondents prefer booking their international trips from a travel agent, while domestic trips are usually booked online. Social Interaction with a travel agent is the key to a good customer experience.					
2006	International Journal of Information Management	Li, L., & Buhalis, D.	Online	Online questionnaire was emailed to 103,000 randomly selected registered customers of eLong.com	Factor Analysis, Chi-Square	634	Empirical (Quantitative)
	Title	E-Commerce in China: The case of travel.					
	Main Objectives	Investigate the characteristics of Chinese travel lookers and their adoption of e-shopping for tourism products.					
	Major Findings	Bookers are more innovative than lookers and demonstrate a higher degree of self-efficacy. Bookers have a more positive attitude toward shopping online, which explains why they are early adopters of e-shopping.					
2007	International Journal of Retail & Distribution Management	Kamarulzaman, Y.	Focus group and online survey	Focus group discussions to build questionnaire, followed by emails with link to online survey sent to randomly selected e-shoppers in the UK	Multivariate analysis and SEM	300	Empirical (Qualitative & Quantitative)
	Title	Adoption of travel e-shopping in the UK.					
	Main Objectives	Explores consumers' adoption of internet shopping in the context of UK travel services. Identify the profile if internet shoppers and the antecedents of internet shopping adoption for travel services.					
	Major Findings	Perceived usefulness is positively correlated with the adoption of travel e-shopping. Perceived ease of use does not have a direct effect on the adoption of internet shopping. Consumer involvement and innovativeness has a direct effect on online shopping, but opinion leadership does not.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2007	Information Technology & Tourism	Brown, M., Gottlieba, U., & Muchira, R.	Questionnaire	Undergraduate and graduate students from Australia	ANOVA	186	Empirical (Quantitative)
	Title	Privacy concerns and the purchasing of travel services online.					
	Main Objectives	Examine the effect of privacy concerns on online travel purchase behaviour.					
	Major Findings	Privacy concerns was explored by using three aspects that previous researchers had identified as being of primary concerns: unauthorized use of secondary data, invasion of privacy (unsolicited communications to consumers) and errors (personal data being deliberately or not altered). Unexpectedly, their findings revealed that these privacy concerns do not have an impact on individuals' actual or intended online travel purchase.					
2007	Journal of Travel Research	Jun, S. H., Vogt, C. A., & MacKay, K. J.	Secondary Data	Data from a telephone survey conducted by the Canadian Tourism Commission in 2001 to USA and Canada residents, but only USA was selected	Cross-tabulation with chi-square and contingency coefficient tests.	1.334	Empirical (Quantitative)
	Title	Relationships between travel information search and travel product purchase in pretrip contexts.					
	Main Objectives	Understand the relationship between travel information search and product purchase behaviours					
	Major Findings	Individuals with higher levels of travel experience are more likely to purchase travel online. Travellers were more likely to use the Internet for their travel information search than for their travel purchases.					
2007	Tourism Management	Lee, H., Qu, H., & Kim, Y.	Online	Emails with link to survey sent to email addresses of a large wholesale travel agency in South Korea	Hierarchical moderated regression analysis	208	Empirical (Quantitative)
	Title	A study of the impact of personal innovativeness on online travel shopping behavior—A case study of Korean travelers.					
	Main Objectives	Determine how travellers' online shopping behaviour varies depending on their personal innovativeness, using TRA as theoretical foundation					
	Major Findings	Attitude and subjective norm have impact on intention to search for travel and on intention to purchase travel. Attitude and personal innovativeness interact to predict intention to search and intention to purchase. Subjective norm and personal innovativeness interact to predict intention to search, but not intention to purchase.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2007	Tourism Management	Kim, D. J., Kim, W. G., & Han, J. S.	Online	Emails with link to survey were sent to 4.326 students, faculty and staff of 7 Universities in the USA.	Multidimensional scaling, Factor analysis	446	Empirical (Quantitative)
	Title	A perceptual mapping of online travel agencies and preference attributes					
	Main Objectives	Investigate the important choice attributes of online travel agencies from which online customers must select. Identify how online customers identify online travel agencies relative to important attributes.					
	Major Findings	The most critical attribute for customers to use online travel agencies is finding low fares, followed by security and ease of use.					
2008	International Journal of Hospitality Management	Morosan, C., & Jeong, M.	Online	6409 USA students were contacted to participate in study	SEM	914	Empirical (Quantitative)
	Title	Users' perceptions of two types of hotel reservation Web sites.					
	Main Objectives	Examine users' perceptions of reservation Web sites, supported by the TAM.					
	Major Findings	Perceived usefulness, ease of use and playfulness affect attitudes toward using hotel reservation Web sites. Attitudes and perceived playfulness had an impact on users' intentions to use these Web sites for reservations.					
2008	International Journal of Hospitality Management	Bai, B., Law, R., & Wen, I.	Questionnaire	Interviewers handed out questionnaires at 3 hotels in China	SEM	180	Empirical (Quantitative)
	Title	The impact of website quality on customer satisfaction and purchase intentions: Evidence from Chinese online visitors					
	Main Objectives	Examine the impact of website quality on customer satisfaction and purchase intentions.					
	Major Findings	Website quality has a direct and positive impact on customer satisfaction and customer satisfaction has a direct and positive impact on purchase intentions.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2008	International Journal of Tourism Research	Ryan, C., & Rao, U.	Questionnaire	Questionnaires were administered at 2 places- tourist information centre and airport in New Zealand	SEM	517	Empirical (Quantitative)
	Title	Holiday users of the Internet — ease of use, functionality and novelty.					
	Main Objectives	Adopt TAM to assert that security and financial gain are determinants of Internet usage by international usage.					
	Major Findings	Having a positive attitude towards the Internet (e.g. "the Internet is as essential in my life as any other thing" or "it is easier to get information from the Internet") was a key determinant of adopting online travel shopping.					
2008	Information Technology & Tourism	Law, R., Bai, B., & Leung, B.	Questionnaire	Questionnaires were administered at departure lounge Hong Kong airport	Multiple means comparison, Pearson Correlation	249 Chinese and 238 American	Empirical (Quantitative)
	Title	Travel website uses and cultural influence: A Comparison between American and Chinese travelers.					
	Main Objectives	Examine the relationships between factors of website quality, satisfaction, and online purchase from the perspectives of travellers from the US and China					
	Major Findings	Americans have a higher propensity to purchase on travel websites than the Chinese. Functionality and usability affect visitor's satisfaction and their purchase intention.					
2008	Information Technology & Tourism	Kah, J. A., Vogt, C., & Mackay, K.	Questionnaire	Questionnaires were sent by mail to Canadians	ANOVA, MANOVA	313	Empirical (Quantitative)
	Title	Online Travel Information Search and Purchasing by Internet Use Experiences.					
	Main Objectives	Examine online information search and purchasing of travel products based on Internet use experience applying Roger´s diffusion of innovation theory.					
	Major Findings	Association between Internet adoption and purchasing of travel products was found, with late adopters less likely to buy online than innovators or early adopters. Innovators and early adopters held higher self-perceptions of their use of technologies.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2008	International Journal of Contemporary Hospitality Management	Law, R., & Bai, B.	Questionnaire	International travellers interviewed ay Hong Kong international airport	Chi square, correlation coefficients	862	Empirical (Quantitative)
	Title	How do the preferences of online buyers and browsers differ on the design and content of travel websites?					
	Main Objectives	Examine the perceptions of online purchasers and website browsers on website quality, customer satisfaction and their purchase intention.					
	Major Findings	Differences between buyers and browsers in their demographic profile and perception on several attributes in functionality and usability. Travel website quality enhances customer satisfaction, which in turn can lead to a higher purchase intention.					
2009	Anatolia: An International Journal of Tourism and Hospitality Research	Mayr, T., & Zins, A. H.	Online (Internet users); Paper questionnaire (non-Internet users)	Emails with a link to the survey were sent to costumers of a large large Austrian travel agency and questionnaires were sent by mail to non-Internet users	Multiple Discriminant analysis	715	Empirical (Quantitative)
	Title	Acceptance of Online vs Traditional Travel Agencies					
	Main Objectives	Examine important characteristics of traditional and online travel agencies and attitudes towards these agencies					
	Major Findings	Online shoppers and non-shoppers view online travel agencies and traditional travel agencies differently. The former group values convenience and has a positive attitude towards online travel agencies, while the latter has unfavourable attitudes towards online agencies and values the personal service of travel agencies.					
2009	International Journal of Contemporary Hospitality Management	Wen, I.	-	-	-	-	Conceptual
	Title	Factors affecting the online travel buying decision: a review.					
	Main Objectives	Review of theories affecting consumers' online purchase intention of travel products					
	Major Findings	This paper provides a comprehensive review of research on travelers' behavior online and proposes a conceptual framework of factors affecting online consumer travel purchasing.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2009	The Service Industries Journal	Moital, M., Vaughan, R., & Edwards, J.	Questionnaire	Self-administrated questionnaire on the streets of a suburban borough of Lisbon	Factor analysis, cluster analysis, multiple comparison test and chi square	225	Empirical (Quantitative)
	Title	Using involvement for segmenting the adoption of e-commerce in travel.					
	Main Objectives	Segment the market for adoption of ecommerce in the purchasing of leisure travel based on involvement with using computers and involvement with purchasing travel over the Internet.					
	Major Findings	4 groups: Moderate enthusiasts (moderate involvements with computer use and with purchasing travel online)/ Reluctant purchasers (high involvement with computer use, but low levels involvement with purchasing travel online)/ Aficionados (high involvement in both) and uninvolved low involvement in both.					
2009	Anatolia: An International Journal of Tourism and Hospitality Research	Moital, M., Vaughan, R., Edwards, J., & Peres, R.	Questionnaire	Self-administrated questionnaire on the streets of a suburban borough of Lisbon	Logistic regression	228	Empirical (Quantitative)
	Title	Determinants of Intention to Purchase Over the Internet.					
	Main Objectives	Evaluate the determinants of intention to adopt the Internet for purchasing leisure travel.					
	Major Findings	Higher levels of relative advantage are related to higher levels of intention to purchase online. The more involved an individual is, the higher the levels of intention to purchase leisure travel over the internet.					
2009	Journal of Hospitality Marketing & Management	Lin, P.-J., Jones, E., & Westwood, S.	-	Qualitative - observation	-	12	Empirical (Qualitative)
	Title	Perceived Risk and Risk-Relievers in Online Travel Purchase Intentions.					
	Main Objectives	Investigates perceived risk associated with online travel purchasing by Taiwanese consumers and their reaction to risk relievers.					
	Major Findings	Risk relievers provided on travel websites do impact the perceived risk of online travel purchase. Yet, risk relievers such as security labels and privacy policies seem less effective. Taiwanese costumers pay more attention to risk relievers such as the use of pictures and provision of contact information.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2009	The Service Industries Journal	Park, J., & Chung, H.	Secondary data	Data sets were drawn from the ComScore 2004 data set (USA)	Hierarchical regression analysis /Clickstream	1190	Empirical (Quantitative)
	Title	Consumers' travel website transferring behaviour: analysis using clickstream data-time, frequency, and spending.					
	Main Objectives	Predict e travellers' purchasing patterns via the access manner. Examine the relationship between e-travellers' situational involvement levels and purchase behaviour. Investigate the effect of interaction between travel website access manner and situational involvement					
	Major Findings	E-travellers who directly enter a travel website are more likely to make an actual purchase compared to those who enter the site via a referring website. The longer the travel website duration is and the fewer the number of pages visited, the more an e-traveller is likely to make a purchase.					
2009	Journal of Travel and Tourism Marketing	Ku, E., & Fan, Y. W.	Questionnaire	Administered at Taipei airport to travellers who had booked a room online	Analytic hierarchy process	131	Empirical (Quantitative)
	Title	The Decision Making in Selecting Online Travel Agencies: An Application of Analytic Hierarchy Process					
	Main Objectives	Explore the most important factors influencing customer purchase of rooms on the Internet					
	Major Findings	Privacy, safety and product quality were the three main factors considered by customers purchasing travel products on the Internet (more important than price and convenience)					
2009	Journal of Travel and Tourism Marketing	Kim, L. H., Qu, H., & Kim, D. J.	Online	Emails were sent to faculty, staff and students from 7 universities in the USA	Principal component analysis, Multiple regression, independent sample t test, ANOVA	310	Empirical (Quantitative)
	Title	A Study of Perceived Risk and Risk Reduction of Purchasing Air-Tickets Online.					
	Main Objectives	Understand the risk perception in online air-ticket purchases by including security risk					
	Major Findings	Online air ticket purchasers differ from non-purchasers on the degree of perceived risk (non-purchasers perceive higher risks than online purchasers in online air ticket purchases). Respondents evaluated security risk as the most significant risk factor to their overall risk perception. Perceived risk is different according to demographic characteristics.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2010	Information and Communication in Technology	Bigné, E., Sanz, S., Ruiz, C., & Aldás, J.	Questionnaire (not clear if it was online)	Spanish non purchasing Internet users (sampling was by gender and age quotas)	Confirmatory factor analyses, SEM	309	Empirical (Quantitative)
	Title	Why Some Internet Users Don't Buy Air Tickets Online					
	Main Objectives	Identify the determinant variables that make some Internet users not to buy airline tickets online.					
	Major Findings	Trust influences attitude towards internet shopping; Risk reduces trust and perceived usefulness; perceived ease of use does not affect directly intention to purchase, it influences perceived usefulness.					
2010	Information Technology & Tourism	Wen, I.	Online	Data was collected with an online survey to customers of an online travel service company	Confirmatory factor analyses, SEM	560	Empirical (Quantitative)
	Title	Online Travelers' Decision Makings: A New Equation Model to Evaluate Impacts of Website, Search Intention, and Trust.					
	Main Objectives	Explore the impacts of quality of website design, travellers search intentions, and travellers trust on their online purchase intentions of travel products					
	Major Findings	Consumers evaluate a website design by its information quality, system quality and service quality. The quality of the website design, consumers search intention and consumers- trust influence their online purchase intention.					
2010	European Journal of Social Sciences	Kamarulzaman, Y.	Online	E-mails with link to online survey were sent to 1,834 individuals based in the UK	Descriptive	299	Empirical (Quantitative)
	Title	Geodemographics of Travel E-shoppers: An Empirical Analysis of UK Consumers.					
	Main Objectives	Understand the geodemographic profile of travel e-shoppers in the UK.					
	Major Findings	Most of the customers are middle aged (25-44) females with a higher education level, married or with partner. Travel shoppers are experienced users and frequently search for travel information. Geodemographics - Most of the respondents are from Happy Families and Ties of Community.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2010	Journal of Hospitality and Tourism Technology	Susskind, A. M., & Stefanone, M. A.	Questionnaire	Students from 2 Universities in the USA	Least squares static path analysis	408	Empirical (Quantitative)
	Title	Internet apprehensiveness: An examination of on-line information seeking and purchasing behaviour.					
	Main Objectives	Examine how general internet apprehensiveness (GIA) and apprehensiveness regarding online transactions (TIA) are related to the usage frequency of on-line information seeking and purchasing behaviours.					
	Major Findings	Lack of responsiveness is positively correlated with GIA and GIA with TIA. GIA is negatively associated with information seeking and TIA with purchasing online. Information seeking is positively associated with purchasing online.					
2010	Advances in Tourism Economics: New Developments	Jensen, J.M.	Online	Travelers from Denmark	SEM	287	Empirical (Quantitative)
	Title	Travellers' Intentions to Purchase Travel Products Online: The Role of Shopping Orientation.					
	Main Objectives	Understand travellers' adoption of internet for travel products. More specifically, the paper suggests motivating factors and barriers perceived by travellers.					
	Major Findings	Perceived loss of experience from not visiting an agency negatively affects online purchase intentions; Convenience and better product variety positively affect intentions to purchase. Travellers' shopping orientation alone does not explain intention to purchase travel online.					
2011	Journal of Hospitality Marketing & Management	Beldona, S., Racherla, P & Mundhra, G.	Questionnaire	Self-administrated questionnaireat waiting lounges at 2 airports in India	Multiple regression	389	Empirical (Quantitative)
	Title	To Buy or Not to Buy: Indian Consumers' Choice of Online Versus Offline Channels for Air Travel Purchase.					
	Main Objectives	Determine the factors that determine offline versus online purchases of airline tickets.					
	Major Findings	Age is positively correlated with the purchase of airline tickets at offline channels. Task oriented on the Internet consumers and consumers that value the Internet are more likely to buy airline tickets directly from the airline Web site. Education and Traveling frequency are not related to the purchase of airline tickets online.					

Year	Journal	Authors	Type of survey	Data collection	Statistical Analysis	N.º respondents	Type of Study
2011	Tourism Economics	Garin-Munoz, T. & Pédez-Amaral, T.	Secondary data	Data was collected by the Spanish Institute of Tourism Studies	Double-logarithmic functional form	16,248 households	Empirical (Quantitative)
	Title	Internet usage for travel and tourism: the case of Spain					
	Main Objectives	Explore factors influencing Internet usage for travel information and shopping.					
	Major Findings	Internet usage for travel-related purposes is heavily dependent on the Internet penetration rate. Gender and age influenced consumer behaviour. Transportation mode and travel destination are good predictors of Internet usage for purchasing purposes.					
2011	Tourism Management	San Martín, H. & Herrero, A.	Focus Group/ Questionnaire	2 Focus groups to build measurement items; Questionnaire was administered to individuals who have used the websites of rural accommodation in Spain	Confirmatory Factorial Analysis; Regression	1,083	Empirical (Quantitative)
	Title	Influence of the user's psychological factors on the online purchase intention in rural tourism: Integrating innovativeness to the UTAUT framework					
	Main Objectives	Explore the psychological factors of individuals that explain their intentions to make bookings or reservations directly through the websites of the rural accommodations (online purchase intentions)					
	Major Findings	The performance expectancy and effort expectancy in the use of the websites of rural accommodation positively affects the online purchase intention. However, no relationship was found between social influence and online purchase intention.					
2012	International Journal Tourism Research	Jensen, J.M.	Online	Potential respondents were contacted by telephone, randomly drawn from a telephone directory of a city in Denmark. Those who accepted and met the criteria answered an online survey.	SEM	256	Empirical (Quantitative)
	Title	Shopping orientation and online travel shopping: The role of travel experience.					
	Main Objectives	Investigate how consumers' shopping orientation toward travel shopping influences their tendency to shop for travel products on the Internet.					
	Major Findings	Positive relationship between online search and online purchasing. Perceived risk is negatively related to travel consumers' intention to purchase travel online. Positive relationship between price-saving orientation and online search.					

APPENDIX 2- ENGLISH VERSION OF THE QUESTIONNAIRE

I highly appreciate your participation in this survey that is an important part of my PhD thesis investigating online travel purchasing behaviour. Anyone over 18 can participate and will get a chance to win a $50 Amazon gift certificate. The survey is confidential, for academic purposes only, and will just take less than 10 minutes of your precious time. If you have any questions, e-mail me (samaro@estv.ipv.pt). Best Regards, Suzanne Amaro

Considering that a trip is time spent away from home for leisure or professional purposes, including an overnight stay:

1) How many trips have you taken in the country you live in the last twelve months?

- ☐ 0
- ☐ 1-3
- ☐ 4 -6
- ☐ More than 7

2) How many international trips have you taken in the last twelve months?

- ☐ 0
- ☐ 1-3
- ☐ 4 -6
- ☐ More than 7

3) Please select your 3 most frequent types of trip purposes

- ☐ Beach
- ☐ City Break
- ☐ Conferences
- ☐ Cruise
- ☐ Event (e.g. Festival)
- ☐ Health and Wellness
- ☐ Professional Purposes
- ☐ Religion/Pilgrimage
- ☐ Ski
- ☐ Study Tour
- ☐ Touring with multiple stops
- ☐ Visit friend and relatives
- ☐ Other. _____

Considering that the purchase of travel includes several services, such as airline tickets, hotel reservations, cruises or holiday packages...

4) How do you usually purchase travel?

- ☐ Travel Agents
- ☐ On the Internet
- ☐ Telephone/fax to supplier
- ☐ Other. How?: _____
- ☐ I am not the person responsible for purchasing travel in my home.

5) How many times have you purchased travel online?

- ☐ Never
- ☐ 1-3 times
- ☐ 4 -6 times
- ☐ 7-9 times
- ☐ More than 10 times

6) How many times have you purchased other products or services online besides travel in the last 12 months?

- ☐ Never
- ☐ 1-3 times
- ☐ 4 -6 times
- ☐ 7-9 times
- ☐ More than 10 times

7) If you were to purchase travel...

	Very Low	Low	Average	High	Very High
the probability of purchasing online would be...	☐	☐	☐	☐	☐

8) Please consider the following statement and choose an answer from the scale below:

	Strongly Disagree	Disagree	Neither agree, nor disagree	Agree	Strongly Agree
I expect to purchase travel online in the near future.	☐	☐	☐	☐	☐

9) For each of the following, please rate your level of agreement regarding the purchase of travel online:

	Strongly Disagree	Disagree	Neither agree, nor disagree	Agree	Strongly Agree
Online travel shopping is a good idea.					
I have heard about people purchasing travel online many times.					
I like the idea of purchasing travel online.					
Purchasing travel online would be pleasant.					
Online travel shopping is a wise idea.					
Many friends have purchased travel online.					
Purchasing travel online is appealing.					
It is common for people to purchase travel online.					

10) Please rate your level of agreement with the following statements:

	Strongly Disagree	Disagree	Neither agree, nor disagree	Agree	Strongly Agree
I am proficient in using the Internet for shopping.					
I feel confident that I can use the Internet to purchase travel.					
All necessary resources (e.g. computer, internet access, time) for purchasing travel online are accessible to me.					
I have the necessary financial means (e.g. credit card, paypal) to purchase travel online.					

11) Please rate your level of agreement to the following statements regarding online travel purchasing:

	Strongly Disagree	Disagree	Neither agree,nor disagree	Agree	Strongly Agree
The chance of having a technical failure in an online transaction is quite small.					
I believe most e-commerce travel web sites will perform to the outmost of the customers' benefit.					
Using the Internet to purchase travel fits with my lifestyle.					
I believe online travel websites are trustworthy.					
Using the Internet to purchase travel is compatible with the way I like to shop.					
Internet shopping cannot be trusted, there are too many uncertainties.					
I believe that Internet shopping is unreliable.					

12) Please rate your level of agreement to the following statements regarding the purchase of travel online:

	Strongly Disagree	Disagree	Neither agree,nor disagree	Agree	Strongly Agree
I feel online purchasing procedures are not clear to me.					
I feel it is not easy to book travel online.					
Purchasing travel online is risky.					
I do not feel comfortable using my credit card to make a transaction over the Internet.					
Purchasing travel online is easy.					
I feel apprehensive about purchasing online.					
I would find it easy to purchase what I wanted online.					
Compared with other methods of purchasing, purchasing travel online is riskier.					
There is too much uncertainty associated with purchasing travel online.					

13) Again, thinking about purchasing travel online, please rate your level of agreement to the following statements:

	Strongly Disagree	Disagree	Neither agree,nor disagree	Agree	Strongly Agree
Purchasing travel online makes me less dependent of opening hours.					
I save money by purchasing travel online.					
Purchasing travel online has easy payment procedures.					
Online travel shopping provides more discounts than offline travel purchasing.					
Purchasing travel online is more convenient than regular shopping, as I can do it anytime and anywhere.					
Generally, travel websites offer tourism products at cheaper prices.					

14) Considering the purchase of travel online, please rate your level of agreement to the following statements:

	Strongly Disagree	Disagree	Neither agree,nor disagree	Agree	Strongly Agree
Purchasing travel online enables (will enable) me to complete shopping quickly.					
I can save time by purchasing travel online.					
Purchasing travel online is more exciting than purchasing offline.					
The Internet allows me to purchase travel services that are not available offline.					
Purchasing travel online takes less time than purchasing at travel agencies.					
There is a larger choice of travel products available when purchasing online.					
Purchasing travel online enjoys me more than purchasing offline.					
I can design a custom made trip by purchasing travel online.					

Social media websites are online platforms and tools that travellers may use to share opinions and experiences, including photos and video (e.g. Tripadvisor, travel blogs, Youtube)

15) Please select the social media websites you have used for travel purposes (for example, to search for information about a destination or read hotel reviews)

- ☐ Dopplr
- ☐ Facebook
- ☐ Flickr
- ☐ Google +
- ☐ Holiday Check
- ☐ Lonely Planet
- ☐ Pinterest
- ☐ TravBuddy
- ☐ Tripit
- ☐ Tripadvisor
- ☐ TripSay
- ☐ Twitter
- ☐ Tripatini
- ☐ Tripwolf
- ☐ Virtual Tourist
- ☐ Yahoo! Travel
- ☐ Youtube
- ☐ Other. Which ones?_____
- ☐ None

16) Before travelling….

	Never	Rarely	Sometimes	Very Often	Always
I read hotel reviews from other travellers.					
I searched for travel information on social media websites.					
I looked at activity/attractions reviews of other travellers.					
I read other travellers' experiences and tips.					

17) After travelling….

	Never	Rarely	Sometimes	Very Often	Always
I write hotel reviews on social media websites.					
I post photos on social media websites.					
I write reviews of activities/attractions on social media websites.					
I write reviews of the place and/or monuments I visited on social media websites.					

18) Think about the last few times you used social media for travel purposes, please rate your level of agreement to the following statements:

	Strongly Disagree	Disagree	Neither agree, nor disagree	Agree	Strongly Agree
Using social media for travel purposes is enjoyable.					
Using social media websites for travel purposes is fun.					
Using social media websites for travel purposes stimulates my curiosity.					
I consider the use of social media a big hassle.					

19) Please use the series of descriptive words listed below to indicate your opinion on social media. Social media is…

	1	2	3	4	5	
Unexciting						Exciting
Doesn't matter to me						Matters to me
Boring						Interesting
Useless						Useful

20) Are you a member of any of the following?

- ☐ Dopplr
- ☐ Facebook
- ☐ Flickr
- ☐ Google +
- ☐ Holiday Check
- ☐ Lonely Planet
- ☐ Pinterest
- ☐ TravBuddy
- ☐ Tripit
- ☐ Tripadvisor
- ☐ TripSay
- ☐ Twitter
- ☐ Tripatini
- ☐ Tripwolf
- ☐ Virtual Tourist
- ☐ Yahoo! Travel
- ☐ Youtube
- ☐ Other. Which ones?_____
- ☐ None

Thank you for completing the first section of the survey.

Please click on the next button to be redirected to the last section that should take less than 1 minute to complete and you will have the opportunity to enter a draw to receive a gift certificate to redeem at Amazon.

---

21) Please select your gender

☐ Male ☐ Female

22) Please select your age

☐ 18-29 ☐ 50-59
☐ 30-39 ☐ + 60
☐ 40-49

23) Please select the highest level of education you have completed

☐ 12th grade or less ☐ Master Degree

☐ College Degree ☐ Doctoral Degree

24) In which country do you reside?

(Drop down menu with all of the countries in the World)

25) If you would like to enter a draw to receive a $50 gift certificate from Amazon.com, please leave us your e- mail. _____

Thank You!

Thank you for taking our survey. Your response is very important to us

APPENDIX 3 - PORTUGUESE VERSION OF THE QUESTIONNAIRE

Caro participante, Este inquérito faz parte da minha tese de Doutoramento sobre a compra de viagens online. Qualquer pessoa (mesmo que nunca tenha comprado nada online), com mais de 18 anos, poderá preencher o inquérito e terá oportunidade de ganhar uma noite no Hotel Montebelo 5* em Viseu. O inquérito é confidencial, destina-se apenas para fins académicos e demorará somente cerca de dez minutos do seu precioso tempo. Se tiver alguma dúvida acerca deste trabalho, por favor contacte-me através do meu e-mail (samaro@estv.ipv.pt). Melhores Cumprimentos, Suzanne Amaro

Considerando que uma viagem representa pelo menos uma noite fora de casa, quer para fins profissionais, quer de lazer:

1) Quantas viagens domésticas fez nos últimos 12 meses?

- ☐ 0
- ☐ 1-3
- ☐ 4 -6
- ☐ Mais de 7

2) Quantas viagens internacionais fez nos últimos doze meses?

- ☐ 0
- ☐ 1-3
- ☐ 4 -6
- ☐ Mais de 7

3) Por favor escolha os motivos mais frequentes das suas viagens (até 3):

- ☐ City Break (Visitar uma cidade)
- ☐ Conferências
- ☐ Cruzeiro
- ☐ Esqui
- ☐ Eventos (e.g. festivais)
- ☐ Excursões com paragens múltiplas
- ☐ Motivos Profissionais
- ☐ Praia
- ☐ Religioso/Peregrinação
- ☐ Saúde e Bem-estar
- ☐ Visita de Estudo
- ☐ Visitar amigos ou familiares
- ☐ Outro. _____

Considerando que a compra de uma viagem poderá incluir a aquisição de vários serviços tais como alojamento, bilhete de avião, cruzeiro ou um pacote de férias...

4) Como é que preferencialmente compra as suas viagens?

- ☐ Agências de Viagens
- ☐ Online
- ☐ Telefone/fax ao fornecedor
- ☐ Outro Meio. Qual?_____
- ☐ Não sou a pessoa responsável pela compra de viagens na minha casa.

5) Quantas vezes já comprou viagens através da Internet?

- ☐ Nunca
- ☐ 1-3 vezes
- ☐ 4 -6 vezes
- ☐ 7-9 vezes
- ☐ Mais de 10 vezes

6) Quantas vezes comprou outros produtos ou serviços através da internet nos últimos 12 meses?

- ☐ Nunca
- ☐ 1-3 vezes
- ☐ 4 -6 vezes
- ☐ 7-9 vezes
- ☐ Mais de 10 vezes

7) Se comprasse uma viagem...

	Muito Baixa	Baixa	Média	Alta	Muito Alta
a probabilidade de comprar online seria…	☐	☐	☐	☐	☐

8) Considere a seguinte afirmação e escolha a resposta que considera mais adequada:

	Discordo Totalmente	Discordo	Nem concordo, nem discordo	Concordo	Concordo Totalmente
Tenciono comprar viagens online num futuro próximo.	☐	☐	☐	☐	☐

9) Para cada uma das seguintes afirmações, por favor classifique o seu nível de concordância ou discordância sobre a compra de viagens online:

	Discordo Totalmente	Discordo	Nem concordo, nem discordo	Concordo	Concordo Totalmente
Comprar uma viagem online é uma boa ideia.	☐	☐	☐	☐	☐
Já ouvi falar muitas vezes de pessoas que compram viagens online.	☐	☐	☐	☐	☐
Agrada-me a ideia de comprar uma viagem online.	☐	☐	☐	☐	☐
Comprar uma viagem online seria agradável.	☐	☐	☐	☐	☐
Comprar uma viagem online é uma ideia sensata.	☐	☐	☐	☐	☐
Vários amigos já compraram viagens online.	☐	☐	☐	☐	☐
Comprar uma viagem online é apelativo.	☐	☐	☐	☐	☐
É comum as pessoas comprarem viagens online.	☐	☐	☐	☐	☐

10) Por favor classifique o seu nível de concordância (ou discordância) sobre a compra de viagens online:

	Discordo Totalmente	Discordo	Nem concordo, nem discordo	Concordo	Concordo Totalmente
Sou competente na utilização da Internet para fazer compras..	☐	☐	☐	☐	☐
Sinto-me confiante de que sou capaz de utilizar a internet para comprar uma viagem.	☐	☐	☐	☐	☐
Tenho acesso a todos os recursos necessários (e.g. computador, Internet, tempo) para comprar uma viagem online.	☐	☐	☐	☐	☐
Tenho os meios financeiros necessários (e.g. cartão de crédito, paypal) para adquirir uma viagem online.	☐	☐	☐	☐	☐

11) Por favor classifique o seu nível de concordância (ou discordância) sobre a compra de viagens online

	Discordo Totalmente	Discordo	Nem concordo, nem discordo	Concordo	Concordo Totalmente
A possibilidade de haver uma falha técnica numa transação pela Internet é muito pequena.					
Creio que a maior parte dos sites de vendas de viagens online farão o seu melhor em benefício do cliente.					
Utilizar a internet para comprar viagens encaixa no meu estilo de vida.					
Creio que os sites de viagens são dignos de confiança.					
Utilizar a internet para comprar viagens é compatível com o modo como eu gosto de fazer compras.					
Não se pode ter confiança em comprar online, há muitas incertezas.					
Creio que comprar online não é fiável.					

12) Por favor classifique o seu nível de concordância (ou discordância) sobre a compra de viagens online:

	Discordo Totalmente	Discordo	Nem concordo, nem discordo	Concordo	Concordo Totalmente
Sinto que não estou esclarecido sobre os procedimentos para fazer compras online.					
Sinto que não é fácil reservar uma viagem online.					
É arriscado fazer a compra de viagens online.					
Não me sinto seguro em utilizar o cartão de crédito para realizar uma transação pela Internet.					
Comprar uma viagem online é fácil.					
Sinto-me apreensivo em fazer compras online.					
Acho que seria fácil comprar o que quisesse online.					
Comprar viagens online é mais arriscado que outras formas de comprar.					
Há muita incerteza associada à compra de viagens online.					

13) Pensando na compra de viagens online, por favor classifique o seu nível de concordância com as seguintes afirmações

	Discordo Totalmente	Discordo	Nem concordo, nem discordo	Concordo	Concordo Totalmente
Comprar uma viagem online torna-me menos dependente dos horários das agências físicas.					
Comprar uma viagem pela Internet permite-me poupar dinheiro.					
Comprar uma viagem online tem procedimentos fáceis de pagamento.					
Comprar uma viagem pela Internet proporciona melhores descontos do que a compra offline.					
Comprar uma viagem online é mais conveniente, uma vez que o posso fazer em qualquer altura e em qualquer lugar.					
Geralmente, os sites de viagens oferecem produtos/serviços a preços mais baixos.					

14) Pensando na compra de viagens online, por favor classifique o seu nível de concordância com as seguintes afirmações:

	Discordo Totalmente	Discordo	Nem concordo, nem discordo	Concordo	Concordo Totalmente
Comprar uma viagem online permite-me fazer a compra mais rapidamente.					
Consigo poupar tempo ao comprar uma viagem online.					
Comprar uma viagem online é mais excitante do que comprar offline.					
Online consigo encontrar viagens que não estão disponíveis offline.					
Comprar uma viagem pela internet demora menos tempo do que nas agências de viagens.					
Há mais produtos/serviços de viagens disponíveis ao comprar online.					
Comprar uma viagem online dá-me mais prazer do que comprar offline.					
Consigo criar um pacote mais à minha medida ao comprar viagens online.					

Os sites de Social Media são plataformas on-line e ferramentas que os viajantes podem utilizar para partilharem opiniões e experiências (incluindo fotos e vídeos) (por exemplo, Tripadvisor, blogues de viagens, Youtube).

15) Considere os seguintes sites de social media. Em qual(is) costuma pesquisar informações sobre viagens (por exemplo para pesquisar informações sobre o destino ou ler críticas de hotéis)?

- ☐ Dopplr
- ☐ Facebook
- ☐ Flickr
- ☐ Google +
- ☐ Holiday Check
- ☐ Lonely Planet
- ☐ Pinterest
- ☐ TravBuddy
- ☐ Tripit
- ☐ Tripadvisor
- ☐ TripSay
- ☐ Twitter
- ☐ Tripatini
- ☐ Tripwolf
- ☐ Virtual Tourist
- ☐ Yahoo! Travel
- ☐ Youtube
- ☐ Outro(s). Qual(is)?_____
- ☐ Nenhum

16) Antes de viajar ….

	Nunca	Raramente	Algumas Vezes	Frequentemente	Sempre
Li comentários de outros viajantes sobre hotéis.	☐	☐	☐	☐	☐
Pesquisei informações relacionadas com a viagem nos sites de social media.	☐	☐	☐	☐	☐
Vi comentários de outros viajantes sobre atividades/atrações.	☐	☐	☐	☐	☐
Li comentários e dicas de outros viajantes.	☐	☐	☐	☐	☐

17) Depois de viajar ….

	Nunca	Raramente	Algumas Vezes	Frequentemente	Sempre
Escrevo comentários de hotéis nos sites de Social Media.	☐	☐	☐	☐	☐
Coloco fotografias em sites de Social Media.	☐	☐	☐	☐	☐
Escrevo comentários de atrações/atividades nos sites de Social Media.	☐	☐	☐	☐	☐
Escrevo comentários de locais e/ou monumentos que visitei nos sites de social media.	☐	☐	☐	☐	☐

18) Pense nas últimas vezes que utilizou sites de Social Media para assuntos relacionados com viagens (por exemplo, pesquisar informação sobre o destino, ler comentários de hotéis ou escrever comentários) e classifique o seu nível de concordância com as seguintes afirmações:

	Discordo Totalmente	Discordo	Nem concordo, nem discordo	Concordo	Concordo Totalmente
É agradável utilizar sites de Social Media.					
É divertido utilizar sites de Social Media.					
Utilizar sites de Social Media estimula a minha curiosidade.					
Considero que dá muito trabalho utilizar sites de Social Media.					

19) Por favor utilize as seguintes palavras descritivas para indicar a sua opinião em relação a websites de Social Media. Os Social Media são...

	1	2	3	4	5	
Nada Estimulantes						Estimulantes
Não têm significado para mim						Têm significado para mim
Aborrecidos						Interessantes
Nada úteis						Úteis

---

20) É membro de algum dos seguintes social media?

- ☐ Dopplr
- ☐ Facebook
- ☐ Flickr
- ☐ Google +
- ☐ Holiday Check
- ☐ Lonely Planet
- ☐ Pinterest
- ☐ TravBuddy
- ☐ Tripit
- ☐ Tripadvisor
- ☐ TripSay
- ☐ Twitter
- ☐ Tripatini
- ☐ Tripwolf
- ☐ Virtual Tourist
- ☐ Yahoo! Travel
- ☐ Youtube
- ☐ Outro. Qual (is)?_____
- ☐ Nenhum

Muito obrigada por ter completado a primeira secção do inquérito.

Por favor clique no seguinte botão para ser direcionado(a) para a última secção cuja resposta demorará menos de 1 minuto a completar e terá a oportunidade de entrar num sorteio para ganhar uma estadia no Hotel Montebelo 5* em Viseu.

---

21) Por favor indique o seu género

□ Masculino □ Feminino

22) Por favor indique a sua idade:

□ 18-29 □ 50-59

□ 30-39 □ + 60

□ 40-49

23) Por favor indique o grau mais elevado de educação que completou:

□ 12.º ano ou menos □ Mestrado

□ Licenciatura □ Doutoramento

24) Em que país reside??

(Menu drop down com todos os países do Mundo)

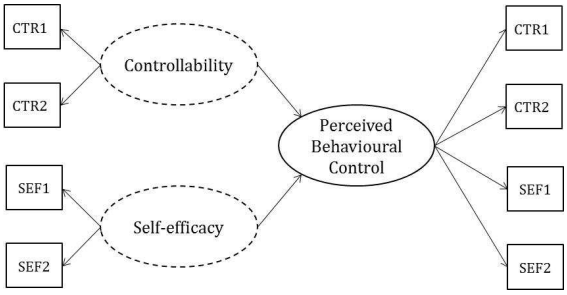
25) Para se habilitar ao sorteio de uma noite no Hotel Montebelo 5* por favor indique o seu e-mail.

_____

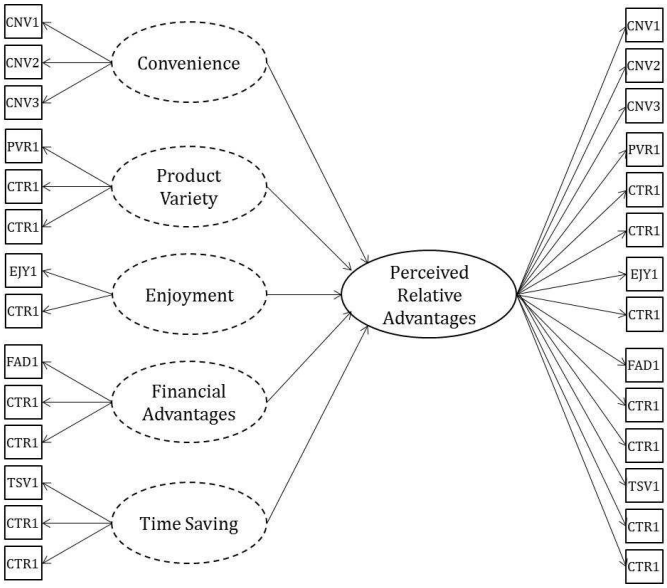
Muito Obrigada!

Obrigada pelo preenchimento do questionário. As suas respostas são muito importantes para o desenvolvimento do meu trabalho.

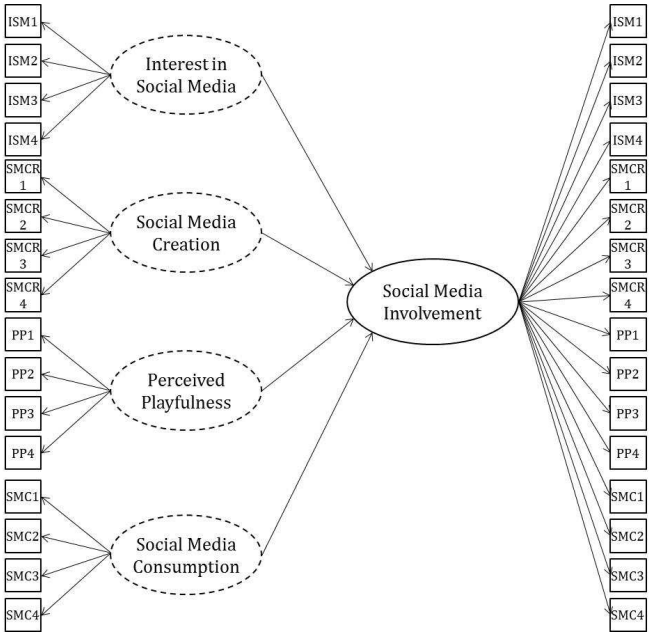
APPENDIX 4 – REPEATED INDICATOR APPROACH



Measurement Specifications of Perceived Behavioural Control



Measurement Specifications of Perceived Relative Advantages



Measurement Specifications of Social Media Involvement

APPENDIX 5 – EMAIL SENT TO RESPONDENTS

ENGLISH VERSION

I am a PhD student from Portugal and my thesis is about online travel shopping, also focusing on travellers' social media use. I would really appreciate it if you could spare your precious time (around 10 minutes) by completing my survey. In case you have to interrupt filling it out, on the top of the screen you can click on *Save and Continue Survey Later* and you will get an email with a link with what you have filled out so far.

After completion of the survey you will be given the opportunity to enter into a prize draw (Amazon voucher).To take part, please click on the following link:

http://edu.surveygizmo.com/s3/934383/english

Please feel free to forward!

Best Regards,

Suzanne Amaro

PORTUGUESE VERSION

No âmbito da minha tese de Doutoramento, relacionada com a compra de viagens online e a utilização dos social media, venho solicitar a sua preciosa ajuda no preenchimento de um inquérito. A informação recolhida é confidencial e utilizada apenas para fins académicos. O inquérito tem um tempo estimado de cerca de 10 minutos e de forma a poder, de alguma forma, recompensá-lo(a) pelo tempo despendido, terá oportunidade de entrar num sorteio habilitando-se a uma estadia de 1 noite no Hotel Montebelo 5* em Viseu.

Caso, por algum motivo, tenha de interromper o preenchimento do inquérito, poderá clicar, ao cimo da página, em *Guardar e continuar inquérito mais tarde*, recebendo dessa forma um e-mail com um novo link em que as respostas efetuadas até então se encontram guardadas.

Para preencher o inquérito:

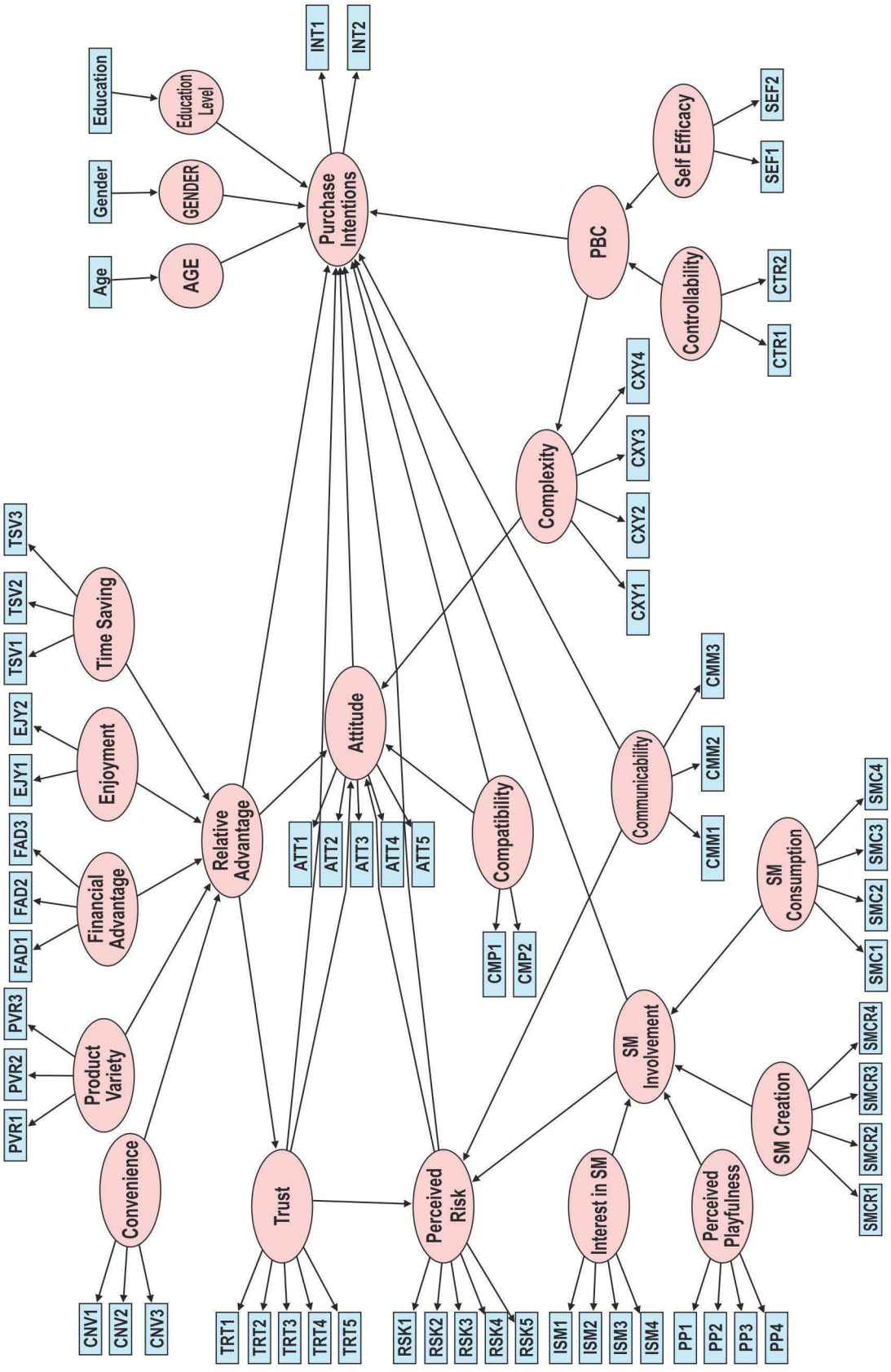
http://edu.surveygizmo.com/s3/934383/portugues

Se tiver alguma dúvida acerca deste trabalho, por favor contacte-me através do meu e-mail (samaro@estv.ipv.pt).

Desde já os meus sinceros agradecimentos.

Suzanne Amaro

APPENDIX 6 –THE PROPOSED MODEL (WITH THE OUTER MODEL)


Education
Education Level
Gender
GENDER
Age
AGE
Purchase Intentions
INT1
INT2
PBC
Self Efficacy
SEF2
SEF1
Controllability
CTR2
CTR1
Complexity
CXY4
CXY3
CXY2
CXY1
Time Saving
TSV3
TSV2
TSV1
Enjoyment
EJY2
EJY1
Financial Advantage
FAD3
FAD2
FAD1
Product Variety
PVR3
PVR2
PVR1
Convenience
CNV1
CNV2
CNV3
Relative Advantage
Attitude
ATT1
ATT2
ATT3
ATT4
ATT5
Compatibility
CMP1
CMP2
Communicability
CMM3
CMM2
CMM1
Trust
TRT1
TRT2
TRT3
TRT4
TRT5
Perceived Risk
RSK1
RSK2
RSK3
RSK4
RSK5
SM Involvement
Interest in SM
ISM1
ISM2
ISM3
ISM4
Perceived Playfulness
PP1
PP2
PP3
PP4
SM Consumption
SMC4
SMC3
SMC2
SMC1
SM Creation
SMCR4
SMCR3
SMCR2
SMCR1

APPENDIX 7 –THE SOBEL TEST

Sobel (1982) provided an approximate significance test for the indirect effect of the independent variable on the dependent variable via the mediator. The Sobel test statistic is given by the following equation:

$$z = \frac{ab}{\sqrt{(b^2 SE_a^2) + (a^2 SE_b^2)}}$$

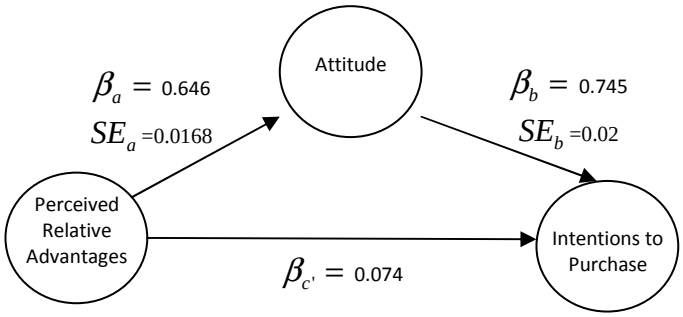
Where:

a - Regression coefficient for the relationship between the independent variable (Perceived Relative Advantages) and the mediator (Attitude)

b – Regression coefficient for the relationship between the mediator (Attitude) and the dependent variable (Intentions to Purchase Travel Online)

SE_a - Standard error of the relationship between the independent variable and the mediator

SE_b - Standard error of the relationship between the mediator variable and the dependent variable



The z statistic calculated in the current study is therefore:

$$z = \frac{ab}{\sqrt{(b^2 SE_a^2) + (a^2 SE_b^2)}} = 26.25$$

APPENDIX 8 – CALCULATION OF THE VARIANCE ACCOUNTED FOR

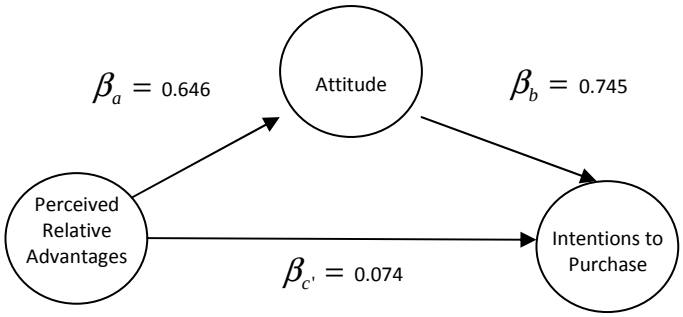
$$VAF = \frac{ab}{ab + c'}$$

Where:

a - Regression coefficient for the relationship between the independent variable (Perceived Relative Advantages) and the mediator (Attitude)

b – Regression coefficient for the relationship between the mediator (Attitude) and the dependent variable (Intentions to Purchase Travel Online)

c' – Regression coefficient for the relationship between the independent variable (Attitude) and the dependent variable (Intentions to Purchase Travel Online)



$$VAF = \frac{ab}{ab + c'} = 0.8667$$

APPENDIX 9 – CALCULATION OF SIZE EFFECTS

$$f^2 = \frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$$

Where R^2 incl*u*ded and R^2 excl*u*ded are the R-squares provided on the dependent construct when the predictor construct is used or omitted in the structural equation, respectively.

Effect Size on Intentions to Purchase Travel Online

Predicators	R^2 **included**	R^2 **excluded**	f^2	**Effect Size**
Attitude	0.668	0.57	0.2952	Medium
PBC	0.668	0.664	0.012	None
Communicability	0.668	0.668	0	None
Compatibility	0.668	0.656	0.0361	Small
Perceived Rel. Advantages	0.668	0.668	0	None
Perceived Risk	0.668	0,662	0.0181	None
Trust	0.668	0.668	0	None
Social Media Involvement	0.668	0.668	0	None
Gender	0.668	0,665	0.009	None
Age	0.668	0.668	0	None
Education Level	0.668	0.663	0.0151	None

Effect Size on Attitude

Predicators	R^2 **included**	R^2 **excluded**	f^2	**Effect Size**
Compatibility	0.619	0.517	0.2677	Medium
Complexibility	0.619	0.618	0.0026	None
Perceived Rel. Advantages	0.619	0.583	0.0945	Small
Perceived Risk	0.619	0.619	0	None
Trust	0.619	0.614	0.0131	None

Effect Size on Trust

Predicators	R^2 included	R^2 excluded	f^2	Effect Size
Perceived Rel. Advantages	0.289	0	0.4065	Large

Effect Size on Perceived Risk

Predicators	R^2 included	R^2 excluded	f^2	Effect Size
Communicability	0.540	0.540	0	None
Trust	0.540	0.079	1.0022	Large
Social Media Involvement	0.540	0.540	0	None

Effect Size on Complexibility

Predicators	R^2 included	R^2 excluded	f^2	Effect Size
PBC	0.407	0	0.6863	Large

APPENDIX 10 – CALCULATION RELATIVE PREDICT RELEVANCE

$$q^2 = \frac{Q^2_{included} - Q^2_{excluded}}{1 - Q^2_{included}}$$

Where Q^2 incl*u*ded and Q^2 excl*u*ded are the Q-squares provided on the dependent construct when the predictor construct is used or omitted in the structural equation, respectively. Note that the q^2 effect sizes in relation to Trust and Complexibility were not calculated since they only have one predictor. Indeed, it does not make sense to calculate Q^2 excluded of these constructs because without their predictor they become exogenous constructs and predictive relevance is only calculated for endogenous constructs.

Effect Size on Intentions to Purchase Travel Online

Predicators	Q^2 **included**	Q^2 **excluded**	q^2	**Effect Size**
Attitude	0,584	0,496	0,212	Medium
PBC	0,584	0,580	0,01	None
Compatibility	0,584	0,574	0,024	Small
Perceived Risk	0,584	0,580	0,010	None
Gender	0,584	0,584	0	None
Age	0,584	0,582	0,005	None
Education Level	0,584	0,580	0,01	None

Effect Size on Attitude

Predicators	Q^2 **included**	Q^2 **excluded**	q^2	**Effect Size**
Compatibility	0,460	0,385	0,139	Small
Complexibility	0,460	0,459	0,002	None
Perceived Rel. Advantages	0,460	0,432	0,052	Small
Trust	0,460	0,456	0,007	None

Effect Size on Perceived Risk

Predicators	Q^2 **included**	Q^2 **excluded**	q^2	**Effect Size**
Trust	0,339	0,048	0,440	Large

APPENDIX 11 – NORMALITY TESTS

Normality Tests

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Gender	.400	1732	.000	.617	1732	.000

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

Intentions to purchase travel online by gender

Levene Statistic	df1	df2	Sig.
8.983	1	1730	.003

Normality Tests

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
age	.211	1732	.000	.847	1732	.000

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

Intentions to purchase travel online by age

Levene Statistic	df1	df2	Sig.
4,889	3	1728	.002

Normality Tests

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Education	.201	1732	.000	.876	1732	.000

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

Intentions to purchase Travel Online by Education Level

Levene Statistic	df1	df2	Sig.
1,041	3	1728	,373